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ABSTRACT

The purpose of this report is to provide the public with the results of the second Michigan Educational Assessment Program Career Development assessment of 4th, 7th, and 10th graders. The introduction provides a perspective with which to view the results. Section II explains how the assessment was conducted and how the data are organized and reported. Section III gives highlights of the assessment for the three grade levels. Sections IV, V, and VI give the detailed results (by grade), with the attainment rates for each objective, a sample of the items used to measure each objective, a discussion of findings, and implications for instruction and guidance. Section VII reports the findings from a further analysis of the data, giving important sex differences in the responses of students at each grade level. The appendices contain a fact sheet, a synopsis of career development assessment results, the list of schools participating in the assessment, and references used in preparing this report. (BW)

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Michigan Educational Assessment Program

CAREER DEVELOPMENT INTERPRETIVE REPORT 1983-4

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1983 - 84

MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM

CAREER DEVELOPMENT INTERPRETIVE REPORT

MICHIGAN STATE BOARD OF EDUCATION

TABLE OF CONTENTS

		Page
I.	INTRODUCTION	1
II.	BACKGROUND	3
	Purpose of the Career Development Interpretive Report	3
	Organization of the Interpretive Report	3
	Overview of the Michigan Educational Assessment Program	3
	Development of the Career Development Performance Objectives	4
	1983-84 Career Development Assessment	4
	How to Read the Career Development Interpretive Report	5
III.	HIGHLIGHTS OF THE 1983-84 CAREER DEVELOPMENT ASSESSMENT	8
	Grade Four	8
	Grade Seven	8
	Grade Ten	9
	Sex Differences	11
	Figure 1. Career Development Assessment 83-84	12
IV.	GRADE FOUR RESULTS	13
	Summary of Grade 4 Results	25
V.	GRADE SEVEN RESULTS	29
	Summary of Grade 7 Results	47
VI.	GRADE TEN RESULTS	51
	Individual Test Results	78
	Summary of Grade 10 Results	81
VII.	FURTHER ANALYSIS OF RESULTS - SEX DIFFERENCES	86
	Table 1. Responses of Males and Females on Items Measuring Recognition of Sex-Role Stereotypes, in Percents	87
	Table 2. Responses of Males and Females on Items Measuring Transcendence of Sex-Role Stereotypes, in Percents	88
	Table 3. Percent of Males and Females Considering 35 Occupations as Career Choices	90
VIII.	APPENDICES	
	Summary of Career Development Components	106
	Attainment Rates for Career Development Objectives	107
	List of Districts Tested	114
	Acknowledgements	116
	References	119

I. INTRODUCTION

We are undergoing a change from an industrial society to an informational society. Technology is affecting every facet of our economic and social structure. The changes occurring are so profound that they not only will alter the kinds of things we will do in the future, but also will affect the pace and rhythm of our living. Our youngsters need to be prepared for different kinds of careers and life styles, and be equipped with congitive and emotional skills which will help them to cope with and adapt to continuous change.

The following predictions have been culled from a number of forecasts made by labor statisticians, economists, and social science researchers. They have serious implications for the career development of our young people. They provide a perspective with which to examine the data provided in this report.

Employment Picture

1. Although high technology occupations show the fastest rate of growth, the actual number of high technology jobs will comprise only 7% of the labor population by 1990.

2. Occupations in the business and personal service industries (health care, education, wholesale, retail, repair, maintenance, government, transportation, banking and insurance) will comprise 72% of the jobs in 1990 and 86% in 2000.

3. Approximately one-half of the jobs in the service industries will deal with the collection, management and dissemination of information (low-tech jobs). The other half will be in personal services.

4. Jobs in manufacturing will continue to decline and will make up only 11% of the labor force in 2000.

Changes in the Labor Force

1. Our population is growing older.

2. More women will continue to enter the labor force.

3. The population is shifting away from the North and Northeast to the Southeast and Southwest, where job increases are greatest.

4. More people, particularly from upper socio-economic levels, are moving to the suburbs and rural areas. Jobs are diminishing in the urban areas where the economically disadvantaged remain.

5. There will be more displaced workers and a large number of unemployed will become a permanent segment of our population.

Changes in Job Structure

1. High technology is creating a polarized work force with a small group of executives and professionals at the top, and the mass of low income and low skill workers at the bottom. The middle group of skilled, semi-skilled, craft, and middle management jobs are rapidly decreasing.

2. Occupations will become obsolete more rapidly. By 2000, one-half of the occupations will have been created between now and then. Relatively frequent job and career changes will be an inevitable life pattern for the workers.

3. In the next decade, there will be 2 jobs for every 2½ college graduates. Under-employment will be a widespread phenomenon.

Changes in Job Requirements

1. The professional, white collar, and technical jobs of the future will require more than the "basics". "Skills that today are considered 'higher level' by many educators, including critical thinking, problem solving, analytic, synthetic, decision-making and communication skills, are likely to become the rock-bottom 'basics' for many workers of the future."*

2. All workers at all levels will require transferrable skills to survive in the rapidly changing labor market, such as:

   - adaptability to change
   - ability to communicate, written, oral, computer
   - dependability
   - interpersonal skills
   - good work habits and attitudes

*National Assessment of Educational Progress Newsletter, Fall, 1982, Vol. XV, No. 3, "Graduates May Lack Tomorrow's 'basics'."

II. BACKGROUND

Purpose of the Career Development Interpretive Report

The purpose of this Interpretive Report is to provide the public with the results of the second Michigan Educational Assessment Program Career Development assessment of fourth, seventh, and tenth graders. Career Development is part of the Michigan program of essential skills. It is one of ten components deemed important by the State Board of Education as the necessary body of skills and knowledge needed by each child in Michigan, in order to function adequately in life. Accordingly, the Board has seen to the creation of career development performance objectives and has authorized the Assessment Program to test the achievement of those objectives.

Organization of the Interpretive Report

The Introduction provides a perspective with which to view the results contained in this report.

This section explains how the assessment was conducted and how the data is organized and reported.

Section III gives highlights of the assessment for the three grade levels.

Section IV gives the detailed results for the grade four assessment, with attainment rates for each objective, a sample of the items used to measure each objective, and a discussion of findings. At the end is a summary of findings and discussion of implications for instruction and guidance.

Section V provides the results for grade seven in the same format as for grade four.

Section VI contains the results for grade ten.

Section VII reports the findings from a further analysis of the data, giving important sex differences in the responses of students at each grade level.

The appendices contain a fact sheet, a synopsis of career development assessment results, the list of schools participating in the assessment, a list of acknowledgements, and references used in preparing this report.

Overview of the Michigan Educational Assessment Program

The Michigan Educational Assessment Program (MEAP) is responsible for measuring the extent to which Michigan students have mastered specified basic skills. Since 1969, MEAP has provided information to the Governor, Legislature, State Board of Education, citizens, district personnel, teachers, parents, and students on the status and progress of Michigan basic skills education.

Basic to the development of the educational assessment program was the development of educational goals for Michigan schools by the State Board of Education and presented in the publication, Common Goals of Michigan Education.

The Michigan Department of Education staff, with the cooperation of educators and lay citizens, developed and published student performance objectives consistent with the Common Goals of Michigan Education in ten instructional areas.

Each fall all fourth, seventh, and tenth graders are tested on selected minimal reading and mathematics skills. Although students are tested upon entering grade 4, 7, or 10, the skills tested should have been acquired in previous grades (K-3, 4-6, and 7-9, respectively).

In addition to measuring attainment of the minimal performance objectives in reading and mathematics, the Assessment Program also measures attainment of objectives in other essential skill areas. Each year a stratified, random sample of schools is drawn and one or two additional subject areas are assessed. Career Development was one of the areas measured in the fall of 1983.

Development of the Career Development Performance Objectives

In 1974, the State Board of Education approved A Reference Guide: Career Development Goals and Performance Indicators, which outlined a conceptual model of career development. Performance objectives and assessment items were developed in 1978-79, and the first statewide career development assessment conducted in the fall of 1979.

In 1982-83, the performance objectives were revised to encompass new knowledge in child and adolescent development, and to address the demands anticipated in the age of information and high technology. These objectives were written by a committee of educators representing local and intermediate school districts and universities, and were reviewed by citizens as well as career educators and counselors. The resulting document, the Essential Performance Objectives for Career Development contains objectives for K-3, 4-6, and 7-9. They are correlated with the high school objectives of the Michigan Life Role Competencies.

1983 Career Development Assessment

Assessment items were developed and tried out for the new objectives (see Appendix for Test Development Committee) in the spring of 1983. Testing was conducted in the fall of 1983 to a stratified, random sample of twelve elementary, twelve middle, and eighteen high schools.

The fourth grade test consisted of one multiple-choice booklet of 70 items, and was administered by classroom teachers in the sample schools.

The seventh grade test consisted of one multiple-choice booklet of 80 items, and one open-ended booklet of 17 items. These were administered by the classroom teachers.

The tenth grade test consisted of two multiple-choice booklets of 58 and 80 items, one open-ended booklet of 26 items, and an individual assessment of 130 students on the Career Choice Inventory, an employment application form, and a simulated job interview. The group tests were administered by classroom teachers, and the individual assessment was done by three trained test administrators who travelled to the school sites and conducted the assessment on a random sample of students.

The student performances on the assessment were reviewed by career educators and counselors (see Appendix). They discussed the adequacy of the attainment rate for each objective and the implications these results have for teachers, counselors, and administrators.

How to Read the Career Development Interpretive Report

In reading this report, it is useful to know how the performance objectives for career development are organized (e.g., 3-1.2.1, 6-2.5.3, 9-4.1.4).

The first digit refers to the grade level by the end of which that objective should have been mastered:

3 - by the end of third grade (tested at grade 4)
6 - by the end of sixth grade (tested at grade 7)
9 - by the end of ninth grade (tested at grade 10)

The second digit refers to one of four career development components:

1. Self Awareness and Assessment (Who am I now?)
2. Career Awareness and Assessment (What can I become?)
3. Career Decision Making (How do I decide what to become?)
4. Career Planning and Placement (How do I get there?)

The third digit refers to the thematic question addressed within that component (see Appendix).

The fourth digit numbers the objectives within the thematic question.

The organization of Sections IV, V, and VI is as follows:

1. The objective is given in the box at the top.

2. The type of item (multiple-choice or open-ended) is designated at the top right.

3. The attainment rate (AR) is given at the top right, and indicates the percentage of students who demonstrated mastery of the objective. For objectives measured by multiple-choice items, the criterion for mastery is usually two out of three items. (Exceptions are specified in the "Remarks" section.)

   For objectives measured by open-ended items, the criterion is different for each question according to a scoring guide.

When more than one AR is given, more than one objective may have been measured by that set of items, or in the case of open-ended items, more than one question measuring aspects of the objective were administered and scored.

4. A sample item or two is given in the left column for multiple-choice items. The percentage figures show the proportions of students selecting each of the foils or answer choices. A * indicates the correct answer.

   Open-ended items are described in the text of the discussion.

5. A discussion of the results is given in the right column for multiple-choice items and in the text for open-ended items.

6. A summary by component, and the instructional and guidance implications are given after each grade level section.

The following should be kept in mind when interpreting these test results:

1. The objectives assessed by tests are essential. However, these objectives do not cover the entire range of skills, knowledges and attitudes that educators would consider important in career development at the beginning of fourth, seventh, and tenth grades. In addition, local districts may have other important objectives which are unique to their districts.

2. Only selected objectives for the total set of essential objectives in career development were tested.

3. The essential objectives are a guide to expectations for student achievement. Because much of a youngster's career development is shaped by experiences outside of school, it would be expected that achievement of the objectives would vary widely among students. Instructional and guidance interventions are needed to bring all students to an acceptable level of mastery.

4. The test items are relatively narrow samplings of behaviors, knowledges, and attitudes described in the objectives. Many of the objectives are difficult to measure, and too complex to be assessed by a small number of items. These items should be regarded as "best tries", and the assessment as a rough measure of where students are in their career development.

5. The career development assessment is from a statistical sample of public school pupils across the state--not an every-pupil test. Every geographic area and community type was sampled.

6. The career development assessment is objective-referenced, not norm-referenced. Results should not be used to compare pupils, schools or districts, but rather to guide curriculum development and instructional planning.

7. The criterion for determining objective attainment is a statistical operation for multiple-choice items. For open-ended items, criteria were established by a committee of career educators. Local educators may feel that for some objectives the criterion is too high or too low.

The MEAP staff was cognizant of these factors as it guided the test writing and interpretation process. It is hoped that educators will find the results helpful as they work to improve their career development programs.

III. HIGHLIGHTS OF THE 1983-84 CAREER DEVELOPMENT ASSESSMENT

GRADE FOUR

Among fourth graders,

Doing better on a sport and doing things on their own were the most frequently selected areas for self improvement.

Over half knew what kinds of behavior enable one to get along with others.

Three-fourths had a superficial knowledge about careers such as whether a job is performed indoors or outdoors. But only a third were able to identify the most important task performed by people in a variety of jobs.

More than half were able to recognize the usual roles that men and women have, but only 7% were able to see that different occupational and home roles can be performed by men and women alike.

Approximately one-half had completed career exploration activities that are regarded as essential for the career development of students at that age.

Four out of ten were not able to project ahead to the consequences of failure to meet a responsibility.

Three-fourths had difficulty weighing the important factors to consider in making a decision.

Seven out of ten were able to identify the work habit or attitude that enables one to succeed in an immediate task, but only one-half were able to see how work habits at home transfer to performance in school.

GRADE SEVEN

Among seventh graders,

85% were able to state a goal for self improvement; one-half could name the steps to reach the goal, and less than half could estimate the length of time for completing the steps.

Less than half knew the kinds of behavior that most enables one to get along with others.

One-half were able to identify the tasks performed by persons on their jobs.

Two-thirds recognized the usual roles that men and women have, but only one-fourth were able to see that different occupational and home roles can be performed by men and women alike.

Two-thirds had completed career exploration activities that are regarded as essential for the career development of students at that age.

Nine out of ten were able to name responsibilities they have in school or at home; seven out of ten could name an immediate consequence, and one-half could name a long-term consequence of not meeting these responsibilities.

Seven out of ten could weigh the important factors to consider when making a decision.

86% gave at least two careers that they are considering for the future. One half named interests they have that could relate to careers, and three-fourths were able to identify their important career related abilities.

Over one-half were able to generate solutions to problems not uncommon to persons of their age.

Seven out of ten were able to identify the work habits and attitudes that enable one to succeed. Six out of ten could project present work habits and attitudes to future work situations.

GRADE TEN

Among tenth graders,

Approximately equal proportions as seventh graders were able to state a self improvement goal (85%), name the steps to reach the goal (54%), and estimate the length of time for completing the steps (49%). More tenth graders were able to state how achieving the goal would help them.

Two-thirds were able to identify the behaviors that would facilitate interpersonal relationships.

Two-thirds recognized the usual roles that men and women have; one-half were able to see that different occupational and home roles can be performed by men and women alike. However, in the careers that students indicated they would consider for themselves, males and females still chose traditional roles for themselves.

Only three out of ten had completed career exploration activities that are regarded as essential for the career development of students at that age.

About one-half were familiar with the Michigan Occupational Information System.

Only four out of ten knew of important career information resources to help them in their career planning.

Seven out of ten had done serious thinking about their future: their first jobs, what to look for in a career, and what kind of person they wanted to be.

Two-thirds could project ahead and identify the responsibilities that would come with a decision.

94% named two or more careers they were considering for the future. Two-thirds named interests they have that could relate to careers, and three-fourths were able to identify their important career related abilities.

Among students of a smaller sample tested individually, 40% were considering careers that matched poorly with their abilities, and 28% were considering careers that matched poorly with their interests.

The majority are willing to spend additional years to acquire the training and the work experience needed to qualify themselves for a career.

Less than half were able to outline an extended plan to reach their tentative career goals.

More than a third thought that the way to plan for the unpredictable future would be to choose an occupation in an unchanging field.

Four out of ten reported using microcomputers for learning or for personal use (not counting video games). Eight out of ten said they would take a job requiring computer use if training is provided.

Four out of ten had difficulty projecting themselves into work situations and to see direct and assertive courses of action for resolving work-related problems.

Only one-fourth were able to generate solutions to a complex problem that persons of their age might encounter.

SEX DIFFERENCES

Students across grade levels tended more often to recognize traditional occupational and home roles that are associated with their gender, i.e., males tended more frequently to recognize traditionally male roles, and females recognized traditionally female roles.

When asked to indicate who CAN do different roles, females at the seventh and tenth grades were more often able to transcend stereotypical roles; they more frequently said that both men and women can do a number of jobs or activities than did males.

Dentist, police officer, and cooking are the occupational and home roles where the greatest breakdown of stereotyping seems to have occurred at all grade levels.

Although tenth graders are able to recognize that gender does not restrict one from occupational roles, they limited themselves to traditional fields in their own career choices.

Female tenth graders were less restricted by stereotypes than male students in their career choices and in their attitudes toward the opposite sex when projecting themselves into a work situation.

Among fourth graders, boys more often wanted to improve themselves in a sport, and girls selected home jobs, music or art, and school subjects as areas of self improvement.

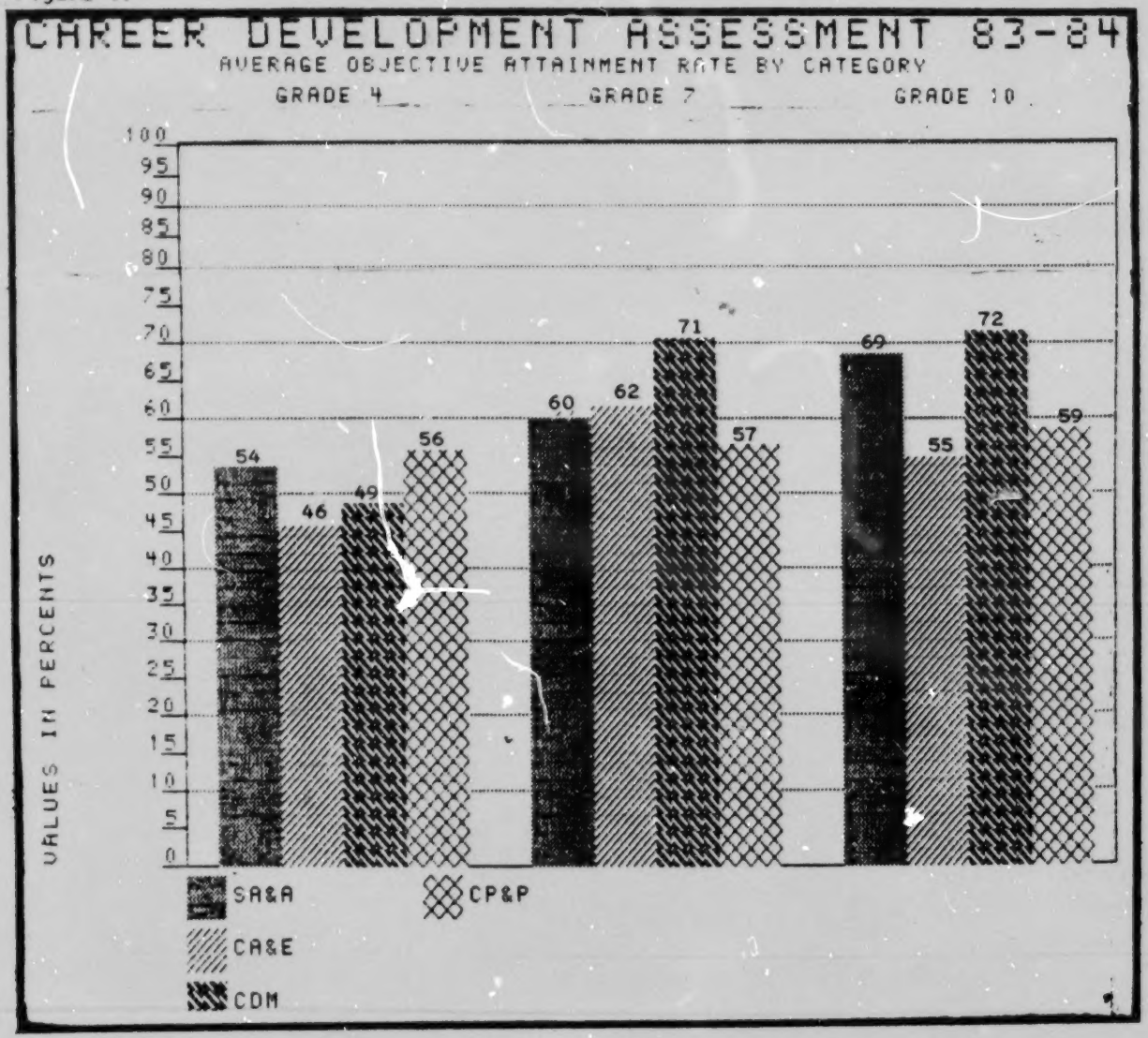
Tenth grade females were more mature than males in several ways:

- in taking full responsibility for getting homework done, completing home chores, and in making moral decisions about their personal behavior.
- in selecting more direct and assertive solutions to work problems.
- in showing better understanding of the interpersonal skills which enable one to get along with others.
- in an interest in developing more openness and expressiveness in themselves.
- in doing serious thinking and planning about future careers and on the kind of person they wanted to be as adults.

Tenth grade males were experientially more rich in the following:

- in having work experience on a paid part-time or full-time job.
- in learning and using the microcomputer for other than video games in home or school.

Figure 1.



SA&A: Self Awareness and Assessment
CA&E: Career Awareness and Exploration
CDM: Career Decision Making
CP&P: Career Planning and Placement

AR = Survey
Multiple choice

IV. GRADE FOUR RESULTS

1. Self Awareness and Assessment
(Who am I now?)

Objective 3-1.2.1

The student will name some things about him/herself that s/he would like to improve.

SAMPLE ITEM	REMARKS
29. Which of the following would you like MOST to do better?	This objective was addressed by two survey items that asked students to select the area of self improvement most important to them.
16% A. Jobs at home such as cleaning and cooking.	There were statistically significant sex differences on Item 29, where boys chose sports more frequently than girls as the area they wanted most to improve. Girls chose home jobs, music or art, and school subjects more frequently than boys.
40% B. A sport such as soccer or rollerskating.	
26% C. Music or art such as piano or drawing.	
17% D. School subjects such as math or writing.	
30. Which of the following would you like MOST to improve?	Sex differences were not significant on Item 30. The distribution of responses tell us that fourth graders are more concerned with their developing independence than with interpersonal and social skills. It is expected that these would shift in priority as they approach middle school.
23% A. Making friends.	This struggle for independence is evidenced in the responses given to other items (e.g. Objective 3.1.1), where students show that they are still heavily influenced by the approval or expectations of adults.
21% B. The way I behave.	
11% C. The way I look.	
44% D. Doing things on my own.	For a further discussion of sex differences on this objective, See Section VII.

AR = 52%
Multiple choice

Objective 3-1.2.4

The student will examine those attitudes and work habits that enable one to succeed, and determine what s/he will do to attain these traits.

SAMPLE ITEM	REMARKS
66. You have a pet gerbil. It is your job to take care of it. Which of the following will NOT help you do the job?	This objective was partially measured by three items which dealt with important work habits and attitudes. The second half of the objective was not addressed.
18% A. Be gentle when you play with it.	It was clearly difficult for the children to identify responses which would NOT help them do a task. They appeared to be confused, and not able to comprehend the items.
18% B. Feed it each day at the same time.	
49% C* Feed it when you remember to.	
15% D. Make sure the cage stays clean.	

AR = 56%
Multiple choice

Objective 3-1.3.1, 1.3.2

The student will identify behaviors that enable one to get along with others, and identify behaviors that create problems in relationships.

SAMPLE ITEM	REMARKS
35. I will <u>hurt</u> my friend most if I	In this set of three items, students were asked to choose the best ending for the statements:
6% A. always tell my friend the truth.	a) I am being a helpful friend if I...
56% B* break my promises to my friend.	b) I will hurt my friend most if I...
33% C. get angry at my friend sometimes.	c) Even if it is hard to do, it helps my friend if I...
4% D. listen to how my friend feels	The items were difficult in that students were asked to differentiate between answers with varying degrees of correctness or appropriateness. Some of these differences may have been too subtle for fourth graders.

AR = 34%
Multiple choice

2. Career Awareness and Exploration
(What can I become?)

Objective 3-2.1.1

The student will identify tasks performed by people in the job.

SAMPLE ITEM	REMARKS
Which is the most important task for each worker? Mark the letter of the best answer. 14. Publisher 37% A. writes news stories 39% B* prints and sells books 7% C. manages a bookstore 15% D. makes drawings for book covers	This objective was assessed with six items; the criterion for attainment was four out of six. Attainment on these items was lower than expected and indicates that lower elementary students have little knowledge about what workers do on their jobs. Of the six workers covered in the items, "mechanic" was the best known; with "publisher" and "paramedic" the least known. Students seem not to be getting adequate and accurate career information.

AR = 74%
Multiple Choice

Objective 3-2.1.2

The student will identify where people perform their jobs.

SAMPLE ITEM	REMARKS
8. In which job does the person work in a <u>factory</u>? 16% A. Flight Dispatcher 60% B* Assembly Line Worker 19% C. Lumberjack 5% D. Bus Boy	In addition to the factory worker, students were asked to indicate who works <u>outdoors</u> and in a <u>medical building</u>. These items measured a more superficial level of career awareness than the previous set. A much higher attainment rate than was obtained was expected.

AR = A. 57%
B. 7%
Multiple choice

Objective 3-2.2.1A, 2.2.1B

The student will examine non-traditional roles that men and women have in home, work, community, and leisure activities.

SAMPLE ITEM	REMARKS
A. Some jobs or activities are done mostly by women. Some are done mostly by men. Some are done equally by men and women. Mark the letter for who you think usually does each of the following jobs. 19. Dentist 5% A. Mostly by women 27% B* Mostly by men 67% C. Both women and men	This objective was measured by two sets of ten questions in separate sections of the booklet. The criterion for attainment was seven out of ten items. In the first set which dealt with recognition of traditional roles, the students were generally able to respond with the usual roles filled by men and women. The second set of questions required that students transcend stereotyped roles and indicate who CAN do these tasks. Students tend to recognize both traditional roles and those that are emerging for both sexes. However, they completely "bombed" on identifying both sexes as being able to do the same list of jobs. Perhaps children have difficulty distinguishing between tradition and what can be. If the word "can" had been repeated in each foil, perhaps the outcome would have been different. These two sets of questions were repeated in the seventh and tenth grade tests. For an analysis across grades, as well as of sex differences, see Section VII.
B. Which of the following jobs or activities CAN be done by women? Which CAN be done by men? Which CAN be done by both? Select an answer for each and mark it on the answer sheet. 55. Hunting 2% A. Women 78% B. Men 18% C* Both	

AR = 59%
Multiple choice

Objective 3-2.3.2

The student will describe what the consequences could be when s/he does or does not perform these jobs.

SAMPLE ITEM	REMARKS
37. Your job at home is to shovel the sidewalk when it snows. Why is it important for you to do the job? 13% A. The people who use the sidewalk will be happy. 69% B* The sidewalk will be safe for people to walk on. 8% C. You will get scolded if you don't do your job. 10% D. It makes the job harder if you don't shovel right away.	In this set of three items students were asked to identify the reason for doing certain tasks. The foils of these items required that the students clearly distinguish between the objective consequences of a job done or not done, and other possible outcomes determined by one's preferences or by the reactions of others. As in other items calling for identification of consequences, students tended to focus on external rewards--pleasing the teacher, wanting happy parents, getting a better grade.

AR = 48%
Multiple choice

Objective 3-2.4.1

The student will name a variety of career exploration activities in which s/he has participated.

SAMPLE ITEM	REMARKS
Which of the following have you done to learn about what people do in their jobs? 3. A worker came to my school to tell about his job. 58% A* Yes 41% B. No	Students were asked to respond to whether or not they had participated in six career exploration activities. The criterion for objective attainment was four out of six. Responses were expected to represent both in-school and out of school experiences. Overall attainment was quite low. This may reflect the state of the economy with budget cutbacks on experiential activities such as field trips. The highest number of "yes" responses were for observation of workers--76%; movies/slides of people at work--74%. There was least participation in field trips--34% and role playing--29%.

AR = 52%
Multiple choice

3. Career Decision Making
(How do I decide what to become?)

Objective 3-3.1.1

The student will recognize a variety of decisions s/he makes on her/his own at home, in school, and with friends.

SAMPLE ITEM	REMARKS
There are many decisions that you make for yourself. There are many that other people make for you. For each question below, mark the answer to show who makes the decision. 31. Who decides how hard you work on your school assignments? 47% A* I decide myself. 30% B. Someone else decides for me. 22% C. I am not sure who decides.	Three items assessed independent decision-making for: a) how hard you work on school assignments b) which clothes you will wear to school c) who makes up after an agrument with a friend For the more tangible area of what clothes to wear, 71% of fourth graders reported making their own decisions. For the less tangible areas of how much one exerts oneself in school work, or of whether to take the first step in making up with an estranged friend, less than one-half of these students said they make their own decisions. Again, it is indicated that fourth graders are still influenced in their behaviors by their perceptions of what is expected of them. On "c" above, 48% answered that they were not sure who decides.

AR = 64%
Multiple choice

Objective 3-3.2.1

For a variety of decisions that the student might make, s/he will identify responsibilities that accompany the decision.

SAMPLE ITEM	REMARKS
40. Jason decides to take guitar lessons. What is the MOST important thing for him to do? 10% A. Polish the guitar every week. 18% B. Learn to sing the songs he plays. 52% C* Practice regularly. 18% D. Buy a good guitar.	These items appear to be quite simple, but the students did not see the situations clearly, or were not able to think things through to weigh responses and select the MOST important responsibility.

AR = 56%
Multiple choice

Objective 3-3.2.2

The student will describe what the consequences are when these responsibilities are not met.

SAMPLE ITEM	REMARKS
62. Tom took the job of feeding the family dog. If Tom does not do his job, what is MOST LIKELY to happen? 5% A. Tom will have more time to play. 13% B. Tom's mom will feed the dog. 55% C* The dog will go hungry. 26% D. His parents will give the dog away.	Two of the three items measuring this objective are given to show the patterning of responses. It can be seen that a large proportion of fourth graders are not able to see the objective consequences of some behavior, but instead focus on the likely reaction or behavior of the significant adults in their lives. Students need to be helped to separate the subjective element in viewing cause and effect.
63. Jackie watched TV last night instead of doing her homework. What is MOST LIKELY to happen? 38% A* Jackie will not be ready when the teacher asks for her paper. 34% B. The teacher will be upset with Jackie. 19% C. Jackie's parents will not let her watch TV the rest of the week. 7% D. Jackie will get into the habit of watching TV every night.	

AR = 24%
Multiple choice

Objective 3-3.3.1

For a variety of important, age-appropriate decisions, the student will indicate important factors to consider in making the decisions.

SAMPLE ITEM	REMARKS
68. Susan is trying to decide about taking piano lessons. Which of the following is LEAST important for Susan to think about? 31% A. If her family can afford the lessons. 19% B. If she has time to practice. 22% C* If she can read music. 27% D. If she likes piano music.	Students did not do well on this set of items. They had difficulty in determining what was LEAST important to think about in these deciding situations. Perhaps they could not identify with the situation presented. The spread of student responses suggests a random selection of answers; and indicates that these items were not very effective.

AR = 71%
AR = 67%
Multiple choice

4. Career Planning and Placement
(How do I get there?)

Objective 3-4.1.1, 4.1.3

For a variety of age-appropriate problems, the student will:

- identify the problem clearly.
- describe a solution to solve the problem.

SAMPLE ITEM	REMARKS
Eric did not do his homework last night. He told his teacher he could not do it because his dog chewed it up. She did not believe him and called his mother who said Eric did not have a dog. 60. What caused Eric's problem? 24% A. Eric's mom found out he lied. 61% B* Eric did not do his homework. 5% C. Eric is a poor student. 9% D. Eric does not have a dog. 61. What would be the <u>BEST</u> thing for Eric to do? 23% A. Promise to do all the assignments on time from now on. 19% B. Explain it to his mother and have her talk to the teacher. 46% C* Apologize to his teacher and get the homework done. 12% D. Think of an explanation about why he made up the story.	For each of the problem situations, students were asked to identify the cause of the problem, and select the best of several solutions. Although two-thirds of fourth graders attained these objectives, reviewers felt that this level was too low. More students should have been able to identify causes and solutions to these fairly simple problem situations. The responses also showed a tendency not to shoulder responsibility or take ownership of a self-caused situation.

AR = 15%
Multiple choice

Objective 3-4.2.2

The student will describe the steps s/he could take to reach the goal.

SAMPLE ITEM	REMARKS
Pretend that the teacher has asked the class to tell stories about what people do on their jobs. You have decided to tell a story about police officers. 26. Which of the following should you do <u>FIRST</u>? 29% B* Think about the kind of story you want to tell. 33% D. Make a plan of how you will find out about police officers. 28% A. Talk with the people who can tell you what you need to find out. 10% C. Make a story.	This set of three items using the same four foils for each, required students to respond by giving the first, second, and third steps for completing the assignment. The foils are listed at left in order of the correct steps. The following percents of students selected the correct step for each of the three items. 29% Step 1 - Think About 22% Step 2 - Plan 20% Step 3 - Collect Information Only 15% were able to get two correct steps out of three. The reviewers felt that an alternate set of correct answers should be considered: 33% Step 1 - Plan 34% Step 2 - Collect Information 38% Step 3 - Write the Story If the two were combined as acceptable responses, the attainment rate (not computable from available data) would increase correspondingly. This performance, as well as the consistently low attainment rates for items requiring thinking through and weighing alternative responses, point out that students need more instruction and real life practice in critical thinking, problem solving, and planning skills.

AR = 70%
Multiple choice

Objective 3-4.6.1

The student will develop an awareness of how work and attendance habits are being learned that will carry over to her/his success in school.

SAMPLE ITEM	REMARKS
45. Jerry finished his book report early but it was sloppy. He is trying to decide if he should copy it over neatly. Which is the MOST important reason to copy it over neatly? 9% A. So his classmates will not make fun of him. 12% B. So his teacher will like him more. 71% C* So he can feel good and proud of his book report. 8% D. He should not copy it over because it is good enough.	In two of the three items, about 70% of the students were able to respond appropriately in terms of desirable work habits and attitudes. They did less well (51%) on a third item asking them to see how work habits at home transfer to performance in school.

SUMMARY OF GRADE 4 RESULTS

Self Awareness and Assessment

Fourth graders were given three sets of questions dealing with Self-Awareness-one being a survey set, one asking them to eliminate an unacceptable from several acceptable solutions, and one dealing with helpful and hurtful interpersonal situations. Only one-half of the students were able to attain the objectives. However, the fourth graders have given some interesting information about themselves.

By the fourth grade, the value that society places on sports and recreation is firmly established, and competence in recreational activities is important.

Student responses indicate that fourth graders want to be independent. . .to do things on their own. Relationships are also important to them at the level of making or keeping friends.

Implications for Instruction

Children need to be helped in expressing and accepting their feelings. They need opportunities to discover what constitutes a good relationship. It is important that they know what hurts and helps other people, even if that "what" is something that is hard to do.

Students need practice in determining the best solution among given alternatives. They appear to have great difficulty thinking through situations which require selection and elimination of several alternatives.

Implications for Guidance

Children need to be helped to develop positive self images and to experience success not only in classroom tasks but in social and interpersonal situations as well. It is important that they become aware of and begin to practice good interpersonal skills to help them understand themselves and others in more effective ways.

Students need to be involved in a program that focuses on helping them deal with problems of all kinds.

Career Awareness and Exploration

Students appear to have only a superficial knowledge of occupations. For example, they know "where" some people work, but they don't know "what they do" on the job. There is little involvement in Career Exploration activities, such as field trips, but there is more involvement in activities such as movies about people at work.

Students in the fourth grade recognize traditional roles undertaken by men and women. They also recognize those roles that are emerging for both sexes. However, they were not able to transcend the usual stereotypes to see that both women and men can do a number of jobs or activities.

Implications for Instruction

Low attainment rates indicate that career awareness is not being covered in the first three grades. Basic occupational awareness can easily be covered through social studies, language and vocabulary development.

When field trips are taken for the purpose of career exploration, the purpose of the field trip should be clarified for students. They should be instructed to concentrate on the workers more than on the product.

Parental and community involvement in career awareness and exploration programs is crucial to the success of any career development curriculum.

Since fourth graders appear to have their stereotypes pretty well established, an elementary version of the Sex Equity Project might be in order. Curriculum materials should be carefully reviewed for bias, and teachers and counselors should have professional development activities dealing with stereotypes. Children should be exposed to role models in non-traditional roles. Most of all, they need to know that jobs and activities are not restricted to just men or women.

For resources and technical assistance, contact the Office of Sex Equity of the Michigan Department of Education (517-373-3497).

Implications for Guidance

Students need to be involved in activities where they engage in role playing the various work tasks that are performed in different types of jobs.

Organization of a grade level or school wide career day where students dress the role and tell others about job tasks they have to perform would be helpful.

Students should be exposed to educational television programs like Freestyle that focuses on breaking down sex and ethnic stereotyping in the work world.

In given decision-making situations, students had difficulty seeing the situation clearly and thinking things through. They tended not to weigh responses carefully.

Students consistently responded to external rewards and pressure to please others—parents, teachers—and to threats of privileges being taken away. They also tended to give someone else the responsibility if they did not complete tasks.

Students' decision-making skills are more developed when dealing with tangibles, such as what clothes to wear.

Implications for Instruction

Students need more instruction and practice in such procedures as:

- prioritizing
- sequencing
- selection and elimination
- determining consequences
- critical thinking

Role playing and simulation-type activities can be very helpful to learning and understanding the decision-making process.

Implications for Guidance

Students need to be involved in activities where they learn how to learn, and practice using decision making strategies and problem solving techniques.

Career Planning and Placement

There were four objectives tested in the Career Planning and Placement component. Overall, students did quite well, except for describing planning steps for reaching a goal.

As in the given decision making problem situations, students tended not to show ownership for responsibility for their actions.

In some of the problem situations, many students had difficulty in correctly identifying the problem, while in other situations, they found it more difficult to identity the solution.

Implications for Instruction

Students definitely need more instruction in problem solving and decision making.

The subject of "transferrable skills" is becoming more important with changing technology. Elementary school is not too early for children to begin relating a habit/skill/or attitude to another or more settings.

As children move away from dependence on adults, they need to be given opportunities to make decisions and carry through projects that have meaning for themselves. Only as they take ownership and responsibility for larger areas of their lives will they lessen their tendency to direct their behaviors on the basis of external rewards and punishments.

Implications for Guidance

Students need to be involved in activities where they will develop tentative short and long range plans to achieve goals that are appropriate for this age level. Each plan should include a step-by-step process that the student would follow in order to achieve the desired results.

Students need to learn that behavior leads to consequences, and that decisions that are made early in life will affect them later on.

AR = 1) 63%
2) 42%
3) 44%
Open-ended

V. GRADE SEVEN RESULTS

1. Self Awareness and Assessment
(Who Am I now?)

> Objective 6-1.1.7
>
> The student will evaluate her/his growth in independence.

In this three item set, students were to:

1) indicate something they felt they should have learned but hadn't;

2) give a reason why they hadn't;

3) state what would help them learn it now.

This set was a difficult task for seventh graders, and as would be expected, a wide variety of responses was given. Many responded that they wanted to be less shy, be nicer to others, be more assertive with others, and be more accepting of self. Another thing that many of them want is to be more independent. Unacceptable responses were trivial or unrelated to growth.

There is a growing self awareness, and many indicated that their own attitude prevented their growth. However, there is still a dependency on adults for many things.

Almost two thirds of the students gave acceptable responses to the first item. One fourth gave unacceptable responses, while 11% chose not to respond. Forty-two percent gave acceptable reasons why they hadn't learned whatever it was they thought they should have, and 44% gave acceptable responses as to what would help them learn it now. In the latter two items, 14% did not respond.

While this is a Self Awareness Objective, the process involves problem solving and requires knowledge of cause and effect. Students need practice in acquiring these skills.

AR = 1) 85%
2) 66%
3) 51%
4) 45%

Open-ended

Objective 6-1.2.1, 4.2.1, 4.2.2, 4.2.4

The student will:

- formulate things about self that s/he would like to improve.
- name a goal s/he has for her/himself.
- outline a plan to reach the goal.
- estimate the time required to complete the plan.

In this four item set, students had to:

1) identify something they want to improve.

2) indicate how it could help them.

3) list 3 or 4 things that could be done to make the improvement.

4) project the length of time it would take to make all the changes.

Student achievement began with 85% identifying something they wanted to improve. They seem to have a good handle on that aspect of their self concept. Two thirds of them were able to support their goal statement with an acceptable response to item #2. Half of them listed three or four things they could do, while 28% gave one or two responses to how they could make the improvement. Less than half (45%) estimated acceptably how long it would take to make the change. The latter is a difficult task and will come with time and practice.

AR = 72%
Multiple choice

Objective 6-1.2.4

The student will examine those attitudes and work habits that enable one to succeed, and determine what s/he will do to attain these traits.

SAMPLE ITEM	REMARKS
67. As a piano student, you asked your teacher to schedule a special lesson with a visiting pianist this Saturday. On Friday, your friend invites you to join his family on a trip to the amusement part at Cedar Point on Saturday. What should you do and why? 9% A. Cancel the lesson because you would rather go on the trip. 30% B. Cancel the lesson and ask your teacher to set another lesson. 52% C* Keep the lesson because the visiting pianist has made time for you. 7% D. Keep the lesson because your parents and the teacher want you to.	In these items, students were required to use thoughtful consideration, common sense, and mature thinking. Their responses were refreshingly appropriate for seventh graders. Their responses did not necessarily come from what had been learned in school, but seemed to reflect their learnings from the total environment. For half the students to choose the appropriate response in the sample item is pleasing indeed, because their first preference would no doubt be to go to Cedar Point.

AR = 47%
Multiple choice

Objective 6-1.3.1

The student will identify behaviors that enable one to get along with others and indicate which of these characterize her/him.

AND

Objective 6-1.3.2

Identify behaviors that create problems in relationships and identify improvements s/he can made in her/himself.

SAMPLE ITEM	REMARKS
63. Which of the following shows the MOST respect for another person? 7% A. Agreeing with everything that person is saying. 27% B. Being careful to say only nice things to that person. 51% C* Telling that person the truth even if it hurts. 13% D. Being silent when you disagree with that person.	This set of items was difficult for the seventh graders. Their responses give a picture of where they are in their social and emotional development as contrasted to the tenth graders who were given the same set of items. (See cross-grade comparisons in Section VII.) In item 63, telling the truth even if it hurts would be risky for a seventh grader (also for a tenth grader). Consistently a third of the students were selecting the responses showing an attempt to appease or incur the favor of the other.
64. Which of the following shows the MOST consideration or thoughtfulness for another person? 33% A. Doing favors for that person. 25% B* Paying attention to what that person is saying. 8% C. Laughing at that person's jokes even when you don't think they are funny. 33% D. Giving advice on a problem you think that person is having.	

AR = 54%
Multiple choice

2. Career Awareness and Exploration
(What can I become?)

Objective 6-2.1.2

For a variety of occupations, the student will identify tasks performed by people in the occupation.

SAMPLE ITEM	REMARKS
Below is a list of jobs. Which of the following BEST DESCRIBES a task performed by a person in that job? Mark the letter of the best answer. 28. Dental Hygienist 22% A. fills teeth 8% B. gives shots 55% C* cleans teeth 14% D. drills teeth	Six occupations were given, of which four were required for objective attainment. Three-fourths or more of the students knew the tasks of the beautician, computer programmer, and probation officer. Only a third knew what the geologist and occupational therapist did. On the sample item given, they appeared to be confusing the hygienist with the dentist. The 54% AR is unacceptable for seventh graders. It indicates that career information is not being provided for students.

AR = 68%
Multiple choice

Objective 6-2.1.4

For a variety of occupations, the student will identify skills required of people in the occupation.

SAMPLE ITEM	REMARKS
Below are groups of occupations that are related to one another. For each group, select the skill that is MOST important to ALL the occupations in that group. Mark the letter of the best answer. 29. Public relations worker, hotel manager, automobile salesperson 12% A. design ads for the newspapers 59% B* meet and influence people 13% C. listen to people's problems 16% D. compute profits and losses	Students did better on this series of six items, four of which must be correct for objective attainment. These required that they know something about all three occupations that were grouped.

AR = A 66%
B 26%
Multiple choice

Objective 6-2.2.1a, 2.2.1b

The student will examine non-traditional as well as traditional roles that men and women have in home, work, community, and leisure settings.

SAMPLE ITEM	REMARKS
Some jobs or activities are done mostly by women. Some are done mostly by men. Some are done equally by men and women. Mark the letter for who you think usually does each of the following jobs? 18. Secretary 80% A* Mostly by women 7% B. Mostly by men 12% C. Both women & men Which of the following jobs or activities CAN be done by women. Which CAN be done by men? Which CAN be done by both? Select an answer for each and mark it on the answer sheet. 50. Carpenter 3% A. Women 51% B. Men 38% C* Both	As in the fourth grade, this objective was measured by two sets of ten questions in the test booklet. Students appear to recognize and identify the usual male/female roles in various jobs and activities. But, they were unable to transcend these stereotypes to perceive that both sexes can fill these same roles. For a further discussion of sex differences on these items, see Section VII.

AR = 1) 89%
2) 72%
3) 53%
Open-ended

Objective 6-2.3.1, 2.3.2

The student will:

- identify the responsibilities s/he holds in school, to her/his family, to friends, and to her/himself.

AND

- describe what the consequences could be when these responsibilities are or are not met.

Students were asked:

1) to list an important responsibility they have;

2) to describe what will happen if this responsibility is not met; and

3) if not met, how it will affect them in the future.

Students did very well (89%) in identifying a responsibility. They did reasonably well (72%) in describing a consequence of the responsibility not met. But, only half of them were able to transfer the consequences into long range effects. The latter is a sophisticated skill that must be learned, and students need practice in developing it.

AR = 68%
Multiple choice

Objective 6-2.4.1

The student will name a variety of career exploration activities in which s/he has participated.

SAMPLE ITEM	REMARKS
Which of the following have you done to learn about careers? Mark your answer to each activity on the answer sheet. 1. I observed a worker while she was doing her job. 71% A* Yes 28% B. No	Achievement of this objective is based on students having participated in 5 of the 12 activities. Highest level of participation was in talking with parents about their jobs (80%), and lowest was in the use of MOIS (9%). Students indicate that they have opportunity to listen to workers talk about their jobs. Participation was lower in those activities which provide them opportunity to ask questions. Although a higher attainment rate would be desirable, these results do indicate that some career exploration activities are being carried out during the grades 4-6 levels. This same set of questions was given to tenth graders.

AR = 62%
Multiple choice

Objective 6-2.5.1

The student will:

- identify people who can help her/him learn about careers.

Objective 6-2.5.3

- identify other sources of career information that are available.

SAMPLE ITEM	RESULTS
41. Which would be the BEST source of information about jobs and colleges in Michigan? 25% A. university or college catalogs 54% B* Michigan Occupational Information System (M.O.I.S.) 14% C. Michigan Employment Security Commission (M.E.S.C.) 6% D. a teacher in the high school	Reviewers seriously questioned the appropriateness of this series of questions at the beginning seventh grade level, since investigation of these areas is just beginning. Considering this, attainment is surprisingly good. This set of items was also given at grade 10.

AR = 76%
Multiple choice

3. Career Decision Making
(How do I decide what to become?)

Objective 6-3.1.1

The student will recognize a variety of decisions s/he makes on her/his own at home, in school, and with friends.

SAMPLE ITEM	REMARKS
There are many decisions that you make for yourself. There are many that other people make for you. For each question below, mark the answer to show who makes the decision. 62. When you have an argument with your friend, who decides to try to make up first? 39% A* I decide myself. 11% B. Someone else decides for me. 48% C. I am not sure who decides.	The three items for this objective asked students who decided: a) how hard you work on your school assignments b) which clothes you will wear to school c) about making up after an argument with a friend. This set of items was also given to fourth graders. The results for fourth and seventh graders, respectively, were: a) 47%/71%; b) 71%/88%; c) 42%/39%. Students clearly indicated who decides in the first and second situations. The third item (see sample) elicited unsureness as it did with the fourth graders. This unsureness may partially reflect the confusion about peer relationships that is characteristic among preadolescents.

AR = 59%
Multiple choice

Objective 6-3.2.1

For a variety of decisions, the student will identify responsibilities that accompany the decision.

SAMPLE ITEM	REMARKS
69. Kelly decides to play on the school basketball team. All of the following will be her responsibilities as a basketball team member except one. Which one would NOT be one of her responsibilities? 10% A. Taking care of her equipment and uniform. 68% B* Telling the other players how to play better. 7% C. Being on time to practice. 12% D. Keeping her grades up.	Reviewers agreed that this objective is difficult to measure. The items required careful reading, and students had to respond to a negative statement. One item dealt with the responsibilities of school safety patrols. This may have been out of the experiential realm of many seventh graders, with bussing and crossing guards prevalent today. The AR was lowered by performance on that item.

AR = 79%
Multiple choice

Objective 6-3.2.2

For a variety of decisions that the student might make, s/he will describe what the consequences are when these responsibilities are not met.

SAMPLE ITEM	REMARKS
48. Michelle tells Sue a personal secret and makes her promise not to tell anyone. The next day Sue tells the secret to several of her friends at school. What is likely to happen? 39% A* Michelle will not tell Sue any more secrets. 42% B. No one will ever trust Sue with anything again. 12% C. Many of Sue's friends will laugh at Michelle. 6% D. Michelle will lose her friends.	The high AR indicates that students did well on two of the three items. In addition to identifying consequences of decisions, they demonstrated that they are beginning to understand appropriate social skills. Items 48 & 49 were repeated at the 10th grade. Whereas 7th graders did poorly (39%) on #48 in contrast to 10th graders (60%), they performed as well (84%) as 10th graders (83%) on item 49. On Item 48, 7th graders appear to be overgeneralizing by selecting "B" (42%). This tendency has decreased by grade 10 (23%). The seventh graders' responses reflects again the struggle and confusion that middle-schoolers experience in their interpersonal relations. On Item 49, the situation presented is more clear cut. Seventh graders had no difficulty identifying the likely consequence.
49. Bill is always putting other people down, for example, when he doesn't like their clothes, or when he thinks they said something stupid. If Bill keeps doing this, what is likely to happen? 4% A. People will try harder to impress Bill. 6% B. People will wear different clothing. 84% C* Bill will not have many friends. 4% D. Bill's friends will stand up for him.	

AR = 69%
Multiple choice

Objective 6-3.3.1

For a variety of decisions, the student will indicate important factors to consider in making the decisions.

SAMPLE ITEM	REMARKS
74. John is trying to decide whether or not to seek a part-time job (examples: mowing someone's lawn, babysitting, paper route). Which of the following is LEAST important in making his decision?	To recognize the LEAST in an item requires that students think through the given situation and weigh each possible response against the others. Two thirds of the seventh graders were able to do this.
9% A. How much time he has to spend on the job.	Sometimes seventh graders exhibit a level of sophisticated maturity that both surprises and pleases adults. They appeared to be quite discerning in situations presented in these items.
69% B* Whether or not his friend holds a similar job.	
11% C. How much money he will earn.	
8% D. Getting his parents' permission.	

AR = 86%
Open-ended

Objective 6-3.4.1, 3.4.2

The student will:

- identify a number of career areas that s/he has considered

AND

- be aware that career choices can change as a result of further growth and development.

Students were first asked to list a preferred career choice and then their other choices. Eighty-six percent gave a first and other choices. Six percent listed one choice only.

Then they were asked what is likely to happen to their first career choice. Results are:

20% - it will change
34% - it may change as I grow older
32% - it may change, but I'm pretty sure it will stay the same
13% - I am definite that it will not change
6% - did not respond

The next question asked them to indicate when they began thinking about what to be when they grew up. For half of them, this was between the third and sixth grades. Thirty percent said it was before third grade, and 10% said it was during this year. Six percent had not thought about it yet.

Eighty-eight percent gave acceptable responses to the question: "What were the careers you thought of for yourself when you were younger?" As expected, these included mostly the fantasy choices usually considered by young children--mother, doctor, firefighter, stuntsperson, etc.

Seventh graders indicate that they have been giving considerable thought to their future careers. This is a positive finding. However, there is potential danger in their thinking that their career will probably not change. Developmentally, seventh graders are still discovering and acquiring skills, competencies, and interests. There is also the probability that half the jobs they might consider won't exist when they reach the work force. Students at this level need to be helped to explore widely, and to learn about the need for adaptability to change.

The 10 most frequent career choices among 7th graders were:

Professional Athlete	Veterinarian
Physician	Secretary
Nurse	Lawyer
Computer Programmer	Police Officer
Teacher	Singer

AR = 52%
AR = 78%
Open-ended

Objective 6-3.7.1, 3.7.2

For the career areas that the student has considered, s/he will:

- relate her/his interests to possible career choices

AND

- relate her/his skills and abilities to possible career choices.

Students were asked to think about things they like to do (as a means of looking at possible careers) and list two of those things. Half the students gave 2 acceptable responses. Fifteen percent gave one response.

Then they were asked to list two things they were good at, or did well, again as a means of looking at possible careers. Over three-fourths of them responded acceptably, with 15% giving one response.

Some of the unacceptable responses were "going to a party" and "watching TV," both being things 7th graders would like to do. It is possible that they merely responded to the last part of the question, not in light of possible careers. However, it is encouraging that so many (78%) were able to list two things they did well.

AR = 59%
AR = 68%
Multiple choice

4. Career Planning and Placement
(How do I get there?)

Objective 6-4.1.1

For a variety of problems, the student will:

- identify the problem clearly, AND

Objective 6-4.1.3

- describe a solution to solve the problem.

SAMPLE ITEM	REMARKS
Mary is on the basketball team and she also has a paper route. Since basketball practice is after school, she does not begin her paper route until after dinner. Some of her customers have been complaining about getting their paper too late.	Given three problem situations, students had to 1) identify the problem, and 2) identify the best solution. They had more difficulty identifying the problem than the solution.
75. What is Mary's problem?	Reviewers agreed that students probably tended to view these situations from a personal perspective rather than objectively.
8% A. The customers are being unreasonable.	
69% B* Mary can not do these two things at the same time.	
6% C. The papers have to be delivered too early.	
13% D. Basketball practice lasts too late.	
76. Which one of the following is the BEST way for Mary to get help in solving her problem?	
6% A. Ask her teammates to deliver the papers for her.	
37% B. Ask her coach to allow her to come late to basketball practice.	
8% C. Ask her coach to allow her to skip basketball practice.	
47% D* Pay someone she knows to deliver for her until basketball season ends.	

44

AR = 57%
Open-ended

Objective 6-4.1.4

For a variety of age-appropriate problems, the student will identify alternative ways to solve the problem.

Students were given the problem situation below, and then asked to come up with 2 or more ways to solve the problem.

> Imagine that you have a friend with this problem: Your friend wants to buy a new bicycle, but lost the $100.00 he or she had saved to buy this bicycle. Think of 2 or more things that you can suggest to your friend to solve the problem.

The problem was one with which the students could easily identify, and 57% gave two or more acceptable responses. (Any plausible response was counted as acceptable.) One quarter of the students gave 1 acceptable response.

Examples of unacceptable responses were: responses indicating that they did not take ownership for the problem, when they expected someone else to bail them out, and when they avoided the problem altogether--"forget it!"

Identifying alternatives gives students an opportunity to do some creative thinking. The more practice students have, the better their problem solving ability will be.

AR = 61%
Multiple choice

Objective 6-4.6.1

The student will develop an awareness of how work and attendance habits and attitudes are being learned that will carry over to the work world.

SAMPLE ITEM	REMARKS
44. Julie had only two absences and no tardies during the sixth grade year. What kind of worker do you think she will be as an adult employee?	In this three item set, students had to read a description of someone, and then project the kind of worker that person would be as an adult. This was a rather difficult task for them; with only half the students responding appropriately on two of the three items.
10% A. She will do her work accurately and neatly.	Students appear to have difficulty transferring a set of behaviors from one situation to another. It is important that they be helped to see that the work habits and attitudes they develop while young will carry over to their work performance both presently and in the future.
5% B. She will get along well with her co-workers.	
16% C. She will work very hard for her employer.	
68% D* She will be punctual and have a good attendance record.	

SUMMARY OF GRADE 7 RESULTS

Self Awareness and Assessment

The two objectives tested provided a good indicator of where seventh graders are in their emotional maturity. They have a healthy awareness of the attitudes and work habits that will help them succeed, but they are less able to identify the behaviors that will help them get along with others. They have not yet learned the importance of listening and paying attention to what people are saying, or that giving advice is not necessarily showing consideration for others.

Implications for Instruction

Developing and maintaining interpersonal relationships is an ongoing process, and certainly one of great importance to seventh graders. They need large doses of "reality education" and help with how to get along with others. Peer counseling can begin at this age. Curriculum might include a peer facilitator program such as a life skills class. Emphasis on good work habits and attitudes should be continued.

Implications for Guidance

Students need to be involved in a structured developmental guidance program where they are taught interpersonal skills. Students need to acquire active listening skills, leadership skills, and situational management and self-adjustment skills.

Classroom teachers and counselors need to be trained to deliver a program of this type.*

*This would apply to each of the four career development components.

Career Awareness and Exploration

There were seven objectives tested in Career Awareness. Students demonstrate only a superficial knowledge of occupations. They were less able to identify tasks performed by people on their jobs than to identify a common skill performed in three similar occupations.

Two thirds of the students tested have participated in at least five of twelve identified career exploration activities.

Students correctly recognize that many occupations and activities have a male/female label attached. They also recognize that some occupations and activities are no longer perceived as limited to one sex, e.g., coaching, dentistry. However, they fail to see that all jobs and activities can potentially be done by both sexes.

Implications for Instruction

Students do not have adequate career information. Their responses suggest incidental learning rather than classroom instruction. While students have some knowledge of basic jobs, they are ignorant of science/technology related occupations.

Teachers should be inserviced on the use of MOIS and the career cluster concept. MOIS is an effective tool to use during the junior high years. It can help students to gain a more sophisticated level of career awareness as well as aid them in tentative decision-making. For information and technical assistance on MOIS, contact the Michigan Occupational Information Systems Unit of the Michigan Department of Education (517-373-0815)

A variety of career exploration activities should be established and maintained. Students need to be taught the "art" of asking questions so as to obtain the career information that will help them to get a more intimate knowledge of what workers do on the jobs, or what and how adults do in their different roles. The community, if effectively utilized, can be a rich source of learning and experience, both within the school building and in the natural settings.

Since traditional stereotypes are pretty firmly established, all school personnel should develop an awareness of stereotypic language, behavior, and attitudes. The entire school building (and district) needs to be involved in building awareness and modeling behavior.

Students need an awareness of their own abilities, so that "genderless jobs" can indeed be performed by anyone.

Teachers should have students actively search out articles, stories, examples of people in non-traditional roles. Role models should be found for students to observe and talk with.

Some good resources in the area of sex equity that are available for subscription are: NETWORK and the Wayne County Sex Equity newsletter.

For additional resources, contact the Office of Sex Equity of the Michigan Department of Education (517-373-3497).

Implications for Guidance

Students need to be involved in a structured developmental guidance program where they learn about career development. They need to be taught career exploration skills and they need to learn what resources are available when they are seeking information about high school and post high school educational opportunities.

Career Decision Making

There were four objectives tested in Career Decision Making. Students did fairly well, showing an increase in these skills over fourth graders. They are able to recognize decisions they make and identify who has control over those decisions. They can generally recognize the consequences when responsibilities are not met, but they are less able to identify responsibilities that accompany decisions.

Implications for Instruction

Classroom and guidance activities need to be provided to help students develop their decision-making skills. Since decisions are personal, examples should be personalized. Particular emphasis should be placed on students learning to recognize and identify the consequences and responsibilities that accompany the decisions they make.

Learning to examine factors that influence decisions is a difficult skill to teach as well as learn. The entire decision making process should be addressed in professional development offerings.

Implications for Guidance

Students need to be involved in a structured developmental guidance program where they are taught decision making and problem solving skills. They need to practice making decisions in role play situations where the choices they make affect how they "live" in the simulated world. This type of activity can help them understand that decisions have consequences.

Career Planning and Placement

Three objectives were tested in Career Planning and Placement.

Seventh graders have difficulty in knowing their limits and how to pace themselves. They also had difficulty in projecting how habits and attitudes being learned now would carry over to the work world.

Like the fourth graders, the seventh graders found it hard to specify the problem in a given situation, but less difficult to identify the solution.

Implications for Instruction

Teachers and counselors should work together to encourage the development of good study (work) habits and attitudes. Some of this can be done by their own modeling of effective work habits, positive attitudes toward the self and others, and the expectations of success in whatever one undertakes. Some of this can be done by helping students plan and carry through projects that have meaning to them, and particularly to develop skills in estimating time and in monitoring the progress of a long-term project.

Instruction and guidance should be individualized to the extent possible so that different styles can be accommodated. It cannot be emphasized strongly enough that students understand that habits and attitudes developed now will be used later in life.

Teachers need to be taught how to elicit and nurture good work habits and attitudes, and how to evaluate and monitor student progress in their career development.

Implications for Guidance

Students need to be involved in a structured developmental guidance program where they can learn an educational and career planning process and the college application/post high school educational planning process. Students need to be aware of job getting and holding skills and where to find information about job/occupation projections for the future. Students need to be taught stress management and leadership skills.

AR = 57%
AR = 47%
AR = 44%
Open-Ended

VI. GRADE TEN RESULTS

1. Self Awareness and Assessment
(Who am I now?)

> Objective 9-1.1.10
>
> The student will evaluate her/his growth in independence.

Students were asked to look back on their lives and their personal growth, and to identify something they felt they should have learned. They were then asked what had prevented this learning and what would help them learn it now.

Only 57% gave an acceptable response to the first question. Examples are: learning a skill such as with computers, academic subjects, interpersonal skills, being more assertive, improving study skills. Twenty-three percent did not respond.

Less than half gave acceptable responses to what had prevented the learning and what would help them now, and 30% did not respond at all.

The high rate of non-response suggests that students are not accustomed to thinking in terms of personal growth and of reflecting upon and evaluating themselves. This process requires not only a high level of self awareness, but of problem solving and critical thinking as well. Students need a great deal more help than they are getting, in order to acquire these awarenesses and skills.

AR = 70%
Multiple choice
(Form 91)

Objective 9-1.1.10

The student will evaluate her/his growth in independence.

SAMPLE ITEM	REMARKS
As a tenth grader, there are many ways in which you are independent, but there are a number of things for which you are still dependent upon others. For the following, mark your answers to show what things you are doing on your own, and what things you do with the help of thers. 55. Deciding whether how I behave is right or wrong. 59% A* I take full responsibility for this 31% B. I take partial responsibility for this 5% C. I don't take any responsibility for this	Tenth graders were asked whether they take responsibility for: a) getting their homework done b) finishing home chores c) deciding whether their behavior was right or wrong Five percent consistently denied any responsibility for all three situations. Eighteen to 35% took only part ownership and responsibility for these situations. 72% claimed full responsibility for getting their homework done, while fewer students took full responsibility for finishing chores (55%) and for deciding whether their behavior was right or wrong (59%). These results suggest that students experience more accountability with their school work than with home jobs or with personal behaviors. Female students scored significantly higher than male students. (See Section VII for discussion of sex differences.)

Open-Ended
AR = 85%
AR = 75%
AR = 54%
AR = 49%

Objective 9-1.2.1, 4.2.1, 4.2.2, 4.2.4

The student will:

- formulate what things about her/himself that s/he would like to improve.
- outline a plan to reach this goal.
- develop a timeline for the plan.

Students were given four open-ended questions:

- What is something you want to improve about yourself?
- How could this help you?
- List three or four things you can do to make this improvement.
- How long do you think it would take to make all these changes?

Each subsequent question required a little more thought. Students responded well in the first question, with 85% giving an acceptable response. Seventy-five percent responded acceptably in identifying how this improvement could help them (13% didn't respond). On the third question 54% gave 3 or 4 acceptable responses, 28% gave 1 or 2, and 15% didn't respond. For the last question, 49% gave an acceptable response, and 15% chose not to respond.

They could state goals but fell down when trying to develop a plan to complete the goal and estimate the time involved.

Planning and projection is a problem for young people, requiring practice and time. There is no easy way to learn and to accomplish complex goals. This set of questions involved self awareness, some decision-making and planning, and required careful thought.

AR = 63%
Multiple choice
(Form 91)

Objective 9-1.2.4

The student will examine those attitudes and work habits that enable one to succeed, and determine what s/he will do to attain these traits.

SAMPLE ITEM	REMARKS
38. Anna has worked hard on her job as an arcade manager and she feels she deserves a raise. What should she do? 53% A* Take evidence of her hard work to her supervisor and ask for a raise. 6% B. Threaten to quit if she doesn't get a raise. 34% C. Wait until her supervisor notices her good work before asking for a raise. 6% D. Ask one of her workers to speak to the supervisor on her behalf. 40. Joe finishes his classes at 3:30, and recently took a job which starts at 4:00. He can't make it to work on time and has been reporting on the job at 4:15. What should he do? 10% A. Work harder on the job to make up for the lost time. 14% B. Ask the principal to release him every day from school at 3:15. 64% C* Ask his supervisor to start his job at 4:15. 11% D. Ask another worker to cover for him until 4:15.	The results of this item set are disappointing. In item 40, 35% of the students chose indirect approaches to solving the problem. In item 38, one third of the students chose a passive response. Students seem to be saying that they don't want to deal directly with an issue, they don't want to change, they would rather be passive individuals. They don't appear to be aware that being assertive is sometimes necessary to succeed. An analysis of sex differences on these items showed that females scored significantly higher than males on all three items. Girls consistently chose the more assertive response in greater frequency than boys. For an analysis of sex differences, see Section VII.

AR = 64%
Multiple choice
(Form 91)

Objective 9-1.3.1

The student will identify behaviors that enable one to get along with others and indicate which of these characterize him/her.

Objective 9-1.3.2

The student will identify behaviors that create problems in relationships and identify improvements s/he can make in her/himself.

SAMPLE ITEM	REMARKS
56. Which of the following shows the MOST respect for another person? 5% A. Agreeing with everything that person is saying. 16% B. Being careful to say only nice things to that person. 56% C* Telling that person the truth even if it hurts. 15% D. Being silent when you disagree with that person.	Students were asked to identify the behavior that showed: 1) the most respect. 2) the most consideration. 3) the most cooperation. The relatively low AR suggests that students need some help with interpersonal skills. The fact that over 30% indicated that they would be careful to say nice things or would be silent when disagreeing shows that young people of this age are exercising a great deal of caution in their relationships. Thirty-five percent thought that giving unsolicited advice would be showing consideration to another.
57. Which of the following shows the MOST consideration or thoughtfulness for the other person? 13% A. Doing favors for that person. 37% B* Paying attention to what that person is saying. 7% C. Laughing at that person's jokes even when you don't think they are funny. 35% D. Giving advice on a problem you think that person is having.	Like the 7th graders, the 10th graders have not yet learned that paying attention to what someone is saying is fundamental to any relationship. Significantly more females scored higher on the third item which measured understanding of cooperation. (See Section VII.)

AR = SURVEY
Multiple choice
(Form 92)

Objective 9-1.3.1B, 1.3.2B

The student will:

- identify behaviors that enable one to get along with others and indicate which of these characterize her/him.
- identify behaviors that create problems in relationships and identify improvements s/he can make in her/himself.

SAMPLE ITEM	REMARKS
57. In getting along with others, my STRONGEST point is 41% A. being able to make others comfortable. 33% B. being a good listener. 17% C. being a good entertainer. 8% D. being the person with the best ideas. 59. Among the following, I could use the MOST improvement in 39% A. being more open and sharing myself more. 13% B. keeping my agreements and promises. 28% C. knowing when to keep silent. 18% D. trying to be more helpful to others.	An alternate set of five survey items were used to measure this objective. Students were to identify individual characteristics in relating to others, and to indicate what they felt were areas for improvement for themselves. Responses were spread out among alternatives. The only visible pattern was a concern about sharing oneself and expressing feelings; 39% and 40% indicated these as areas for improvement. There were significant sex differences in 4 of the 5 items. (See Section VII.)

AR = A. 65%
B. 46%
Multiple choice
(Form 92)

2. Career Awareness and Exploration
(What can I become?)

Objective 9-2.2.1

The student will examine non-traditional as well as traditional roles that men and women have in home, work, community, and leisure settings.

SAMPLE ITEM	REMARKS
A. Some jobs or activities are done mostly by women. Some are done mostly by men. Some are done equally by men and women. Mark the letter for who you think usually does each of the following jobs. 46. Dentist 3% A. Mostly by women 52% B* Mostly by men 43% C. Both women & men	In this two part series of questions, students were first asked (A) who usually does this work, and then (B) who CAN do the work. Although tenth graders scored higher than the 4th and 7th graders on both sections, less than half were able to transcend the stereotypes to perceive different jobs and activities as possible for both sexes. The data does show that there is a breaking down of stereotypes in some occupations and activities. There was less stereotyping for: beautician coach dentist fashion model police officer cooking Stereotypes are still high for: auto mechanic secretary sewing fixing the roof hunting
B. Which of the following jobs or activities CAN be done by women? Which CAN be done by men? Which CAN be done by both? Select an answer for each and mark it on the answer sheet. 69. Cleaning the house 32% A. Women 3% B. Men 64% C. Both	

AR = SURVEY
Multiple choice
(Form 92)

Objective 9-2.2.2A

The student will evaluate her/his views of roles that are acceptable to her/himself.

SAMPLE ITEM	REMARKS
Below is a list of occupations. For each, mark YES if this is an occupation that you would consider for yourself. Mark NO if it is not. There are no right or wrong answers. 10. Computer Programmer 63% A. Yes 36% B. No 30. Secretary 33% A. Yes 66% B. No	Students were given a list of 35 occupations and asked to indicate whether or not they would consider each as a career for themselves. Most popular choices were: Computer Programmer 63% Company President 55% Lawyer 48% Professional Athlete 43% Least popular choices were: Minister 8% TV Repairperson 12% Librarian 15% Telephone Operator 15% For an analysis of sex differences, see Section VII

AR = SURVEY
Multiple choice
(Form 92)

Objective 9-2.2.3

The student will examine her/his attitudes toward gender roles in work settings.

SAMPLE ITEM	REMARKS
54. Imagine that you are working for a company and they are hiring a new manager from whom you would have to take orders. Which of the following statements would come closest to the way you feel? 76% A. It does not matter to me whether the manager is male or female. 13% B. I would prefer to have a manager who is of my sex. 8% C. I would prefer to have a manager who is of the opposite sex. 2% D. I would refuse to work under a manager of the opposite sex.	In this survey set of four items, students had to look at their attitudes toward gender roles in relation to career choice and work situations. One half to three quarters responded that gender was not important in the given situation. There is a small group of 5-12% of the students who showed discomfort with the issue of equal roles for men and women. There were consistent and significant differences between males and females in their responses to each of the four items. These responses were also related to how free one was of sex-role stereotypes. (See Section VII.)

Open-Ended
AR = 84%
AR = 67%
AR = 43%

Objective 9-2.3.1, 2.3.2

The student will:

- identify the responsibilities s/he holds in school, to her/his community, to her/his family, to friends, and to her/himself.

- describe what the consequences are when these responsibilities are/are not met.

In this three item set, students had to 1) identify a responsibility that they have; 2) describe an immediate consequence; and 3) a long-term consequence when the responsibility is not met. Most of the students (84%) identified a responsibility, 67% described an immediate consequence, but only 43% described a long-term consequence.

This is again, a question requiring projection. Students appear to be weak in their abiiity to think situations through and to plan ahead. In this case, they had difficulty in projecting consequences--a critical skill in decision making and in planning.

AR = 28%
Multiple choice
(Form 91)

Objective 9-2.4.1

The student will name a variety of career exploration activities in which s/he has participated.

SAMPLE ITEM	REMARKS
10. I have interviewed workers to learn about their careers. 25% A* Yes 74% B. No 11. I have done some volunteer work which helped to learn about a career. 37% A* Yes 62% B. No 12. I have used the Michigan Occupational Information System (MOIS) to learn about careers. 51% A* Yes 48% B. No	Students were given a list of twelve career exploration activities. The criterion for achievement was that students participated in eight of the twelve by the 10th grade. Only 28% reached this criterion. The most frequently chosen activities were: 81% movies, slides or videotapes on careers 80% guest speakers 79% talked with parents about their jobs The least chosen were: 18% role playing of occupations 23% career day or career fair 25% interviewed workers about their careers 37% volunteer work 39% field trip It is encouraging to note that students are having the opportunity to listen to guest speakers talk about careers, this being a relatively inexpensive activity to implement. As might be expected because of expense and/or staff time involved, the experiential activities are not being provided. Yet, students need to experience first-hand what the world of work is like in order to make realistic career decisions. The fact that two thirds of seventh graders attained this objective suggests that career exploration programs are occurring in the elementary and early middle school years, but have been dropped during the later years.

AR = 76%
Multiple choice
(Form 91)

Objective 9-2.5.1

The student will identify people who can help her/him learn about careers.

Objective 9-2.5.3

The student will demonstrate the use of MOIS in the identification of possible career options.

SAMPLE ITEM	REMARKS
20. Which would be the BEST source of information about jobs and colleges in Michigan? 35% A. university or college catalogs 49% B* Michigan Occupational Information System (M.O.I.S.) 10% C. Michigan Employment Security Commission (M.E.S.C.) 6% D. a teacher in the high school	Students were asked to indicate the best source of information about a) jobs and colleges in Michigan; b) many different occupations; and c) part-time jobs in your neighborhood. The 76% AR indicates that students performed well on 2 of the 3 items measuring this objective. In the item shown, only 49% of the students identified M.O.I.S. as a best resource for jobs and colleges in Michigan. Consistently half of the students are reporting familiarity with and use of M.O.I.S. Counselors indicate that the newer college catalogs have good career related information in them, which may account for the 35% selecting alternative (A) in Item 20. NOTE: In 1979, 41% of 10th graders attained this objective. However, the criterion then was more stringent: 4/5 items rather than 2/3 in 1983.

AR = 41%
Multiple choice
(Form 92)

The student will:

Objective 9-2.5.1

identify people who can help her/him learn about careers.

Objective 9-2.5.2

explain what career information can be obtained from the resources within the school.

Objective 9-2.5.3

demonstrate the use of MOIS in identification of career options.

Objective 9-2.5.5

identify other sources of career information.

SAMPLE ITEM	REMARKS

Which of the following sources of information about occupations have you used?

74. Interview with a worker in a specific occupation

10% A. Don't know
43% B. Never used
37% C* Used once or twice
9% D. Used several times

75. Guidance Counselor

11% A. Don't know
46% B. Never used
30% C* Used once or twice
10% D* Used several times

77. Michigan Occupational Information System (M.O.I.S.)

27% A. Don't know
32% B. Never used
24% C* Used once or twice
14% D* Used several times

Students were given six sources of occupational information and asked to indicate whether or not they had used that source. Acceptable responses were C and D. Four of the six items were repeated from the 1979 assessment. Results are given below:

	1979	1983
Guidance Counselor	47%	40%
MOIS	19%	38%
O.O.H.	26%	34%
Interview w/worker	54%	46%

It is encouraging that there is an increase in the use of MOIS and the OOH; however, considering that 97% of high schools have access to MOIS, that figure is low.

It is discouraging that the use of the guidance counselor and interview with a worker has decreased. Both of these descreases probably reflect cutbacks in local programs and staff.

The figure for students having used MOIS is consistent with results for other MOIS items. Figures for sources of information used at least once ranged from 29% to 46%. If these figures are accurate, students have not done much investigating regarding potential careers. If the Employability Development Plan process takes hold in Michigan, these figures should change considerably.

AR = 23%
Multiple choice
(Form 91)

Objective 9-2.5.5

The student will identify other sources of career information that are available.

SAMPLE ITEM	REMARKS
Listed below are sources of career information. Mark "A" for those sources that are available within your school. Mark "B" for those that are not available. Mark "C" if you do not know. 14. Dictionary of Occupational Titles (D.O.T.) 26% A* Yes 8% B* No 65% C. I do not know	Students were given a list of four sources of career information, and asked to indicate whether or not each source was available in the school. Two thirds of the students did not know if the school had the Dictionary of Occupational Titles (D.O.T.), the Occupational Outloook Handbook (O.O.H), and "Real World" Magazine. Half did not know if the school had MOIS. The AR is extremely low. This may indicate that most high schools do not have programs to acquaint students with their career information resources until after the beginning of the tenth grade. An adequate career development program would introduce these resources to students at the eighth or ninth grade.

3. Career Decision Making
(How do I decide what to become?)

AR = 67%
Multiple choice
(Form 91)

Objective 9-3.2.1

For a variety of decisions that the student might make, s/he will identify responsibilities that accompany the decision.

SAMPLE ITEM	REMARKS
43. Earvin is trying to decide whether to go steady with Rose. Which of the following is LEAST important for him to consider before making his decision? 8% A. Whether he likes the kind of person she is. 10% B. Whether he is comfortable in being himself with her. 30% C. Whether he is willing to give up some of his time and freedom. 50% D* Whether he can stay in the relationship for a long time.	In each of these items, students had to examine each of four responsibilities that came with a decision, and select the one which was least appropriate for the situation. They had difficulty with two of the three items. They seemed unable to weigh the relative importance of the responsibilities to arrive at the one that was the least desirable.

AR = 85%
Multiple choice
(Form 91)

Objective 9-3.3.1

For a variety of important, age-appropriate decisions, the student will indicate important factors to consider in making the decision.

SAMPLE ITEM	REMARKS
24. Which of the following is MOST important to consider in deciding which career is right for you? 78% A* Your personal abilities and interests. 6% B. Your opportunities for high pay. 11% C. Your chance for secure employment in that career. 4% D. Your opportunities for gaining prestige and recognition.	Students were given three decision making situations, including class scheduling, choosing a career, and dating. They did very well on these fairly easy items. The item on dating was relatively more difficult for these students.

Open-Ended
AR = 94%

Objective 9-3.4.1, 3.4.2

The student will:

- identify the career areas that s/he is presently considering.
- indicate how sure s/he is of each choice.

When students were asked to write down their first choice of a career they are thinking of now. An encouraging 94% listed a first and other choices, and 4% listed one choice only.

The 10 most frequent career choices among the 10th graders were:

Nurse	Computer Operator
Secretary	Professional Athlete
Lawyer	Engineer
Auto Mechanic	Physician
Computer Programmer	Cosmetologist

Then they were asked what is likely to happen to that 1st choice. Responses were:

6% - it will change
30% - it may change as I grow older
46% - it may change, but I'm pretty sure it will stay the same
16% - I am definite that it will not change

Tenth graders should have a career plan, but should not feel locked into a career choice. The 30% is a healthy response, and the 16% is too rigid. Students need to have information about what changes are occurring in the work world, and to learn career planning skills that equip them to deal with change flexibly and adaptively.

Open-Ended
AR = 78%
AR = 88%

Objective 9-3.4.1, 3.4.3

The student will:

- identify the career areas that s/he is presently considering.
- be aware that career choices can change as a result of further growth and development.

Students were asked when they began to think about what they wanted to become. Seventy-eight percent responded that they started while in elementary school, 14%--middle school, 4%--this year. Eighty-eight percent gave accepatable responses to the question, "What were the careers you thought of for yourself when you were younger?"

This set of questions was asked to determine whether students went through an initial fantasy choice stage before moving on to more realistic choices of careers. These results show that most students did.

These next series of five items consisted of checklists to inventory students' knowledge of characteristics and requirements for the careers they were considering.

Open-Ended
AR = 75%

Objective 9-3.6.1

The student will identify skills required of people in the occupation.

Students were given a list of 12 skills and abilities and asked to choose the one most important for their career choice. Three-fourths gave a plausible response in relation to their choice, and one-fourth did not. This tells us that the majority of the students tested do have an orientation toward matching skills and abilities to a specific career.

AR = 66%

Objective 9-3.6.2

The student will identify the education/ training required of people in the occupation.

When asked what education or training was required for their educational choices, fewer students (66%) knew what response corresponded to their career choice, and one-third gave unacceptable responses. This question required more in-depth knowledge about careers than the previous item. Students should have an awareness of the training or education needed for their chosen career, especially as they plan their high school programs.

AR = 70%

Objective 9-3.6.3

The student will identify worker traits that are important in the occupation.

Students were given a list of 11 worker traits (leadership, independence, etc.) and asked to identify the one most important to their 1st career choice. Seventy percent gave a plausible response in relation to their career choice, while 28% gave unacceptable responses.

AR = 81%
AR = 82%

Objective 9-3.6.4

The student will describe the working conditions of the occupation.

When asked if the work (1st career choice) was done mostly indoors or outside or both, 81% responded acceptably. When asked if the work was with things, people, ideas, or data, 82% responded acceptably.

When given lists from which to identify the most important characteristics of the career they are considering, students are generally able to describe these careers of their first choice. It should be noted that these items required recognition skills only; a more conclusive approach would be to have the students generate their own responses.

Open-Ended
AR = 68%
AR = 75%

Objective 9-3.7.1, 3.7.2

For the career areas that the student is considering, s/he will:

- relate her/his interests to these careers.
- relate her/his skills and abilities to these careers.

Students were asked to list two interests (things they like to do) and two abilities when viewing a career choice. Sixty-eight percent listed two interests. An additional 12% listed occupations instead of interests; and 15% listed only one interest.

75% listed two abilities, while 15% listed only one. Students who have had career development instruction or guidance should have had no difficulty with this question.

The middle school is the appropriate level for students to explore activities and occupations and to learn about their potential interests and abilities. This exploration enables them to deepen their awareness of themselves and to begin to relate their abilities, interests, and personal activities more realistically to different occupational and work roles.

Middle school exploratory programs and career guidance is essential to the orderly career development of students. If followed by career guidance and work experiences at the high school, students would be provided the opportunity to arrive at an experiential readiness for the transitions they will face upon graduation from high school.

AR = SURVEY
Multiple choice
(Form 92)

Objective 9-3.7.5

For the career area that the student is considering, s/he will relate her/his motivation to the length and extent of preparation required for possible career choices.

SAMPLE ITEM	REMARKS
37. What would you like to do after graduating from high school? 15% A. Find a full time job 19% B. Attend community college or vocational school (any two-year school including business college, technical institute, etc.) 53% C. Attend a four-year college, university or professional school 12% D. Other (military service, be a homemaker, travel, etc.)	The three questions measuring this objective were survey items, looking at what the students' post high school plans were, and the length of time they were willing to spend in education and work or training in preparation for their careers. Students have an idea of what they are thinking about doing immediately beyond high school. 72% plan on continuing with their formal education, while 15% plan to enter the work force. More females than males plan to attend a four year college, and more males plan to work full-time. These differences were not statistically significant. Ninety-five percent of the students were willing to invest from one to four years in additional schooling or training. Two thirds of the students were willing to spend from one to three years in work experience in order to qualify for their careers. These figures indicate that tenth graders are well aware that it requires a length of time of preparation before one launches into a chosen career.
38. If your career choice requires additional schooling or training, how many years beyond high school are you willing to be a student or trainee? 7% A. One year or less 31% B. Two or three years 56% C. Four years or more 5% D. I am not willing to continue with school or training after high school.	
39. If your career choice requires work experience at an entry or lower level before you become fully qualified, how many years are you willing to work to get the experience before qualifying? 8% A. Six months or less 25% B. Seven months to one year 41% C. One year to two years 12% D. Three years or more	

74

Open-Ended
AR = 49%
AR = 40%

Objective 9-3.8.1

The student will identify related occupations that require different levels of training.

When asked what similar occupations were in the same career field not requiring as much education, 49% responded acceptably. When asked what occupations s/he would qualify for if additional training was acquired, only 40% gave acceptable responses.

Students appear not to be familiar with the concept of career clusters. They seem to be boxing themselves in within narrow career definitions without looking at or expanding their options. In a prior set of items, students were able to list alternative choices, but they were not looking at alternatives within career families.

Hopefully, this approach to looking at different levels of preparation within career families will be something that students will get into as they review and refine their career decisions during high school, and as they learn more about what they can expect of themselves educationally.

Open-Ended
AR = 47%
AR = 69%

Objective 9-4.2.2, 4.2.3, 4.2.4

The student will:

- outline a plan to reach the goal.
- identify factors that influence the achievement of the goal.
- develop a timeline for the plan.

Students were asked to think of a plan to reach their career goal, and list ONE step for each year of high school. Less than one half listed a step for each of the three years. A fourth listed two steps, and 12% listed one step. This task required the students not only to generate a plan to reach their career goal, but to sequence the steps within an appropriate timeline.

Then they were asked to indicate what the biggest obstacle would be to reaching the career goal. Two thirds of them gave an acceptable response. Some examples of obstacles given are: poor grades, limited financial resources, not getting into college, limited demand for desired career.

Again, the results show that students are weak in projecting ahead and planning to attain a complex goal.

4. Career Planning and Placement
(How do I get there?)

AR = 62%
AR = 72%
Multiple choice
(Form 91)

Objective 9-4.1.1, 4.1.3

For a variety of problems, the student will:

- identify the problem clearly, and
- outline a plan to solve the problem.

SAMPLE ITEM	REMARKS
Wendy's teacher assigned the class a book report due in two weeks. Wendy figured that it would take her two days to read the book, and only one day to write the report. The assignment was due on Friday, and she started reading the book on Monday. On Thursday night, she was still reading the book and was not able to finish her report. 44. What was the cause of Wendy's problem? 4% A. The book she chose was too difficult. 39% B. She waited until the last minute to do her assignment. 5% C. She did not know how to do a book report. 50% D* She misjudged the time it would take to read the book. 45. What would have been a BETTER way for Wendy to have done her assignment? 8% A. She should have chosen an easier book to read. 78% B* She should have allowed herself a few more days for the assignment. 9% C. She should have studied how to do a book report before starting the assignment. 3% D. She should have skipped some chapters to finish the book sooner.	Students were given three 2-part problems in which they had to 1) identify the problem, and 2) identify the best solution. Students were better able to see the correct solution (72%) than to identify the problem correctly (62%). The set given here was also given to 7th graders. For 7th graders 38%, as against 50% for 10th graders, identified the problem and 61%, as against 78%, identified the solution. Wendy's problem was that she did not have enough time to complete her assignment. However, the cause of her problem was her misjudgement on the length of the assignment rather than that she waited until the last minute. The students seem to have generalized from the problem to the cause, or perhaps were assuming a cause coming from their own experiences.

Open-Ended
AR = 24%

Objective 9-4.1.4

For a variety of age-appropriate problems, the student will identify alternative ways to solve that problem.

Students were given the problem situation below and asked to think of 2 or more solutions to the problem:

> The tenth grade class is trying to raise money and Pat has volunteered to be in charge of the concession booth at the game on Friday. Pat told several friends that help was needed. At the class meeting on Thursday, Pat announced that some people may be needed to help with the booth. On Friday night at the game nobody showed up to help in the concession booth.
>
> What are two or more things that Pat could have done to avoid this problem?

The criterion for attainment was at least 2 responses, one of which showed a recognition that the problem was caused by unclear communication and a last minute request. Only 24% of the students gave 2 acceptable responses. 44% gave 1 acceptable response. Thirty-two percent didn't respond or gave an unacceptable response.

As in other problem-solving situations, it was difficult for students to zero in on the problem. Many students gave unacceptable responses such as paying people to work, threatening to withhold favors, imposing punishment.

Students need help then, to:

- separate their emotional responses to a problem situation so as to see the problem clearly and to arrive at an effective solution.
- think through a complex situation or problem, and see what steps are necessary to implement the solution.

AR = 63%
Multiple choice
(Form 91)

Objective 9-4.3.1

The student will list high school courses or activities which are most important for her/his career options.

SAMPLE ITEM	REMARKS
17. Which of the following high school courses would be MOST important for persons with the career choices of computer programmer, accountant, and engineer? 21% A. Electronics 12% B. Consumer Economics 29% C* Algebra 38% D. Business Math	Results of this set of items correspond to other items dealing with career information, and reflect that students do not have accurate career information. Students should know what courses are important in various career fields.

AR = 62%
Multiple choice
(Form 91)

Objective 9-4.6.1

The student will develop an awareness of the factors that influence the supply and demand of jobs.

SAMPLE ITEM	REMARKS
31. By the year 2000, 50% of today's jobs may no longer exist. Entirely new jobs may replace them. Assuming this, which would be the LEAST helpful way for a young person to plan a career for the future? 21% A. Plan future education in such a way that later changes are made possible. 36% B* Plan to choose an occupation in an unchanging field. 20% C. Plan to learn about computers and their applications. 22% D. Plan to learn skills that are important in many fields, such as communications, problem solving, teamwork, etc.	This set of items is difficult to interpret. Students clearly know that there will be a demand for data processing operators, electronics technicians, and math teachers; however, they are less sure of what influences the supply and demand of jobs. On Item 31, besides having to select the LEAST helpful way, the students had to seriously consider each foil on its own merit and strength in relation to career planning. To do this item required a knowledge of career planning and an understanding of the impact of change in the work world. This was very difficult for tenth graders to do.

AR = 74%
Multiple choice
(Form 91)

Objective 9-4.6.2

The student will indicate how to find jobs and employers.

SAMPLE ITEM	REMARKS
28. Raymond wants to find a part-time job after school. All of the following will be helpful EXCEPT 63% A* doing a Michigan Occupational Information System (M.O.I.S.) search. 15% B. asking his friends who already have jobs, if they know of any openings. 9% C. putting in an application at places where he would like to work. 12% D. contacting relatives or neighbors who might hire part-time help.	Students did quite well on these items dealing with finding out about jobs and employers, when what was required was to recognize the correct approach to job hunting from among several alternatives in multiple choice items. It does not necessary follow that students actually do know and are able to put these approaches into practice.

AR = 54%
Multiple choice
(Form 91)

Objective 9-4.6.8

The student will develop an awareness of how work and attendance habits, and attitudes are being learned, that will carry over to the work world.

SAMPLE ITEM	REMARKS
36. Ned doesn't like school and spends very little time on schoolwork. He either copies his friends' work, or does not turn in his work and takes a low grade. What kind of worker do you think he will be as an employee? 51% A* He will try to get by with doing the least amount of work. 24% B. He will try to get others to do his work for him. 14% C. He will do his work inaccurately. 9% D. He will take a long time to finish job assignments.	This is a difficult objective to measure. Students did not do well on this set of items. They appear not to be relating work habits and attitudes to other settings or situations. More specifically, they don't see how their habits and behaviors will transfer to a work situation. The importance of this objective cannot be overstated.

AR = 80%
Multiple choice
(Form 92)

Objective 9-4.7.2A

The student will recognize the probable need for continuing education and self-development throughout her/his life.

SAMPLE ITEM	REMARKS
During the next ten years, you may need to make decisions about each of the things listed below. AT THE PRESENT TIME, HOW MUCH PLANNING OR CAREFUL THINKING HAVE YOU DONE ABOUT EACH OF THESE? 40. How to go about finding your first full-time job. 6% A. I have not done any thinking about this at all. 23% B. I have not done any serious thinking about this. 49% C* I have done some serious thinking about this. 21% D* I have done quite a lot of serious thinking about this.	This identical set of three items was given in 1979. Students were asked to indicate how much thinking they had done about: 1) finding the first full-time job — 1979: 70% — 1983: 70% 2) rewards they would seek in a career — 1979: 75% — 1983: 76% 3) the kind of person they want to be — 1979: 81% — 1983: 82% Acceptable responses were: "C"--some serious thinking, and "D"--a lot of serious thinking. They have apparently done some to a lot of serious thinking about each item; a combination of the two acceptable responses ranged from 70% to 82%. The results for both 1979 and 1983 are given above. It is interesting that the results are almost identical. While C and D responses were both acceptable, when just the D responses (a lot of serious thinking) are considered, roughly one-fourth made this response about their first full-time job and about the rewards they will look for in a career. A larger group (40%) indicated that they have done a lot of serious thinking about what kind of person they want to be as an adult. Significantly more females than males said they had done serious thinking about all three areas. (See Section VII.)

AR = SURVEY
Multiple choice
(Form 92)

Objective 9-4.7.2B

The student will recognize the probable need for continuing education and self development throughout her/his life.

SAMPLE ITEM	REMARKS
79. Not counting video games, how often do you use a microcomputer (to write programs, solve problems, keep records, etc.) either at school or at home? 11% A. Almost every day 12% B. A few times each week 15% C. A few times each month 59% D. Rarely or never	For current levels of availability of microcomputers in schools, it is significant that four out of ten 10th graders are using them to some extent for learning or for personal use. While six out of ten students said they rarely or never use a microcomputer, eight out of ten are willing to work with them if training is provided. As might be expected, there were significant sex differences in the responses to these items. (See Section VII.)
80. If you had a choice of two jobs in the same field and for the same pay, which of the following would you choose? 34% A. The first job which requires the use of computers, with necessary training provided. 16% B. The second job which does NOT require the use of a computer. 44% C. Either job would be acceptable.	

AR = 62%
Multiple choice
(Form 91)

Objective 9-4.7.3

The student will recognize personal, economic, and social reasons for possible career changes throughout one's life.

SAMPLE ITEM	REMARKS
34. Select the BEST statement about job or career change. 43% A* Career change is common and affects most levels of workers in today's changing work world. 19% B. Career change is common during periods of economic recession but not during periods of economic recovery. 21% C. Career changes affect only those persons who have not prepared adequately for their careers. 15% D. Career change is most common among factory workers and unskilled laborers.	Students were asked to identify a personal and an economic reason for changing jobs; 58% and 76% respectively responded correctly. On the third item given here, they were to identify the best statement among four about job or career change. The response spread on this item indicates that students have not grasped the reality of a continuously changing work world. It is often reported that the average adult worker changes jobs seven times during his/her lifetime. There are any number of reasons for those job changes. Students cannot expect to prepare for one job and remain in it for a lifetime. The three items that measure this objective merely touch the surface of an area that is crucial to the career development of students. It is essential for schools to deal with the concept and process of change.

INDIVIDUAL TEST RESULTS

Approximately 130 students from six schools representing different geographic areas and community types were administered the Career Choice Inventory and an Employment Application. They were then asked to return the following day prepared for a simulated job interview. The results of this smaller assessment is given below.

Career Choice Inventory

The Career Choice Inventory is a self assessment instrument for high school students which is designed to help them examine their interests, values, abilities, and personal characteristics, and to determine whether there is a match between themselves and the characteristics of the career of their choice. The students first go through a checklist to inventory their personal strengths and their interests and values. They then answer a number of questions about their current career choices. They are asked how much exploring and research they have done on the occupations they are considering, and what alternatives they have in mind. The final exercise guides them through a matching procedure of their personal characteristics versus the characteristics of their career choice and asks them to draw some conclusions about the appropriateness of their choices.

A group of counselors and career development practitioners assisted in the "scoring" of the inventories. The scoring consisted of judging the relatedness of personal strengths and interests and values to the career choices of these students, and determining the accuracy of the career information given by students for their chosen occupations.

The results show that only 18% of the students in the sample chose careers that matched well with their abilities, while 40% were considering careers that matched poorly with the abilities. Clearly, tenth graders are not taking into account their abilities and strengths when making their career choices.

Only 27% showed a good match between their interests and values and the careers of their choice, but this figure increases to 72% if we add those who showed some match. Students seem more aware of or show more attention to what they like and value in looking at careers.

39% identified several important characteristics of the occupations they were considering, and an additional 45% showed a moderate level of knowledge about their career choice. These results seem to indicate that students have a better knowledge of the requirements of the careers of their choice than of whether they themselves have the qualities needed to do well in or be satisfied with that career.

Employment Application

A committee of career development practitioners assisted in setting the criteria for scoring the completed application forms. They considered 17 of the 21 items of information asked for in the form as important for an applicant to complete when applying for a job. The four that were not counted were: social security number (not all tenth graders have one), and three blanks for additional information such as foreign language competence and special study or research experience.

Only 2% of the 132 students who completed the application form completed all 17 items. Seventy, or 53% of the students, completed the twelve items that were judged to be critical.

The forms were also judged for legibility and neatness on a three point scale. 52% were judged to be legible and neat, 37% as partially legible and neat, and 11% illegible and not neat.

Simulated Job Interview

The students were given the following instructions:

> "You are to come prepared as if it were a real interview for one of the jobs listed below."

The job list included the kind of part-time work that a tenth grader might apply for: child care, fast food restaurant work, grocery store bagger or stocker, etc.

Individual interviews were conducted by trained test administrators, using a standard set of questions:

1) Tell me what skills and experiences you have that would help you in this job.

2) Have you had a job before? What did you do?

3) What are some things about yourself that would make you a good worker?

4) Why do you want to have this job?

5) What questions do you have about the job?

A three point rating scale was used for four categories. These are given with the percent of students scoring at the three scale levels below:

1) Personal Appearance

Good	34%
Adequate	57%
Inadequate	8%

2) Speech and Behavior

Good	43%
Adequate	41%
Inadequate	16%

3) Content

Good	26%
Adequate	42%
Inadequate	32%

4) Employability

Good	28%
Adequate	47%
Inadequate	25%

Personal appearance included factors such as neatness and appropriate clothing. Most of the students were at least adequately dressed and groomed. Speech and behavior included poise, attitude, and attentiveness, and use of proper English. High ratings were given for more students on this aspect than others. Content took into account how well the students expressed themselves, whether they asked good questions, and whether they appeared to know themselves well enough to respond with full information. About one-fourth of the students did well; one-third performed inadequately. Employability included the students' awareness of what the job would entail, whether they had work experience, and whether they appeared to be mature and responsible. About three-fourths were judged to be employable.

Overall, student performance on these individual tasks were where we would expect tenth graders to be given the kinds of experiences they are exposed to. For example, urban students appeared to be more work-wise than rural students. We would expect higher performance from those in schools where career and employability development programs are provided. Hopefully, all students will have the opportunity to learn these skills before they enter the work force.

SUMMARY OF GRADE 10 RESULTS

Self Awareness and Assessment

Two-thirds of tenth graders showed an awareness of interests that can form the basis of career choices, and three-fourths could name their career-related abilities.

Almost all tenth graders could identify something they wished to improve about themselves, but only half of them could tell how to achieve these improvements. They seemed reticent to speak up about their positive strengths.

In their interpersonal relationships, students indicated that their most needed areas for improvement are in being more open and in expressing their feelings. They are less concerned about forming relationships or of getting along with others. Developmentally, then, tenth graders are becoming increasingly concerned about closer relationships with their peers.

When projecting themselves in work situations, a third to one-half of tenth graders chose passive or indirect ways of resolving a conflict or problem. This shows a tendency to avoid unpleasant situations rather than to learn assertive behaviors.

Implications for Instruction

By the tenth grade, more students should know their interests and abilities. This has implications for career guidance (see below) as well as for classroom activities. It is important that subject area teachers relate what is taught to possible future uses of these knowledges and understandings.

Tenth graders are struggling with their identities--they are in a state of flux in defining who they are. They can be helped when they understand that the process of growth will involve confusion, inconsistencies, and feelings of inadequacies. Despite their desire to be "grown up", they are very much in need of role models, mentors, and adults who are patient and will understand.

Students need to learn appropriate behaviors for dealing with problems and conflict situations. This can most effectively be taught outside of the traditional classroom, in real work and interpersonal situations. They need to experience success from attempting assertive behaviors.

Implications for Guidance

Students need to be involved in a guidance program that teaches them strategies for living and working in a "high-tech" society (e.g., role play situations where they practice assertive behaviors and learn the difference between being assertive and being agressive). They also

need to be involved in activities where they share positive things about themselves and receive praise from others.

Students need to practice active listening skills and they need to be taught different ways of coping with frustration and conflict to help them deal more effectively with themselves and others. Establishment of a peer facilitator program could be very helpful in this process.

Career Awareness and Exploration

Exploratory experiences are for the most part sedentary. Students are given a lot of information, but not actual experiences. However, three quarters of the students have worked either for pay or as a volunteer.

Students are very ignorant of sources of career information available to them, with only half knowing about or having used MOIS, and less for other sources.

Student expectations regarding employment are quite unrealistic and rather inflexible.

Tenth graders are beginning to transcend the traditional stereotypes of male/female roles in the home, work, community, and leisure settings. In their personal career choices, however, they are still considering those occupations that are traditionally associated with their gender.

Implications for Instruction

It is especially important at the high school level that students be provided exploratory experiences so that they can have a more realistic view of the working world.

The MOIS is free, current, and available. Every student should be encouraged to use it.

Students should be introduced to other sources of career information, including workers in the field. They should know:

1) what is available, and
2) how to use it.

Efforts should be continued to provide awareness of males and females in non-traditional roles and settings. The most effective would be for them to interact personally with adults who have transcended the artificial boundaries set by our culture and society. Students must be made aware that jobs are genderless, and that anyone can do them. This may require that teachers confront or deal with their own biases. When biases or stereotypes break down among school staff, the results can be astounding.

Implications for Guidance

Students need to be involved in a career guidance program where they research thoroughly the different careers they are considering. They should experience using MCIS, the Dictionary of Occupational Titles and the Occupational Outlook Handbook.

Students should be exposed to adults who are working in various occupations, via a Career Fair or Career Day. They need to have opportunities to interview these adults regarding the training and background required in their particular career, what the "real" work is like and what the future job opportunities are. They should be encouraged to visit and shadow workers on their jobs, get work experience, and take advantage of programs offered in the community such as the Explorer Scouts Career Exploration program.

The guidance program should consistently emphasize the fact that all occupations are open to females and males, yet also point out barriers that exist and how these barriers can be overcome.

Career Decision Making

Tenth graders are making decisions and assuming responsibilities that are appropriate for their age. They show some weakness in thinking through short- and long-term consequences of failure to meet their responsibilities. They also have difficulty in identifying the responsibilities that accompany certain decisions.

They have done considerable thinking about career decisions and most plan to invest time in education and training. However, they do not show the adaptability to change that would be required in an ever-changing work world.

The career choices that tenth graders are making are more related to their interests than to their abilities and strengths. There was a poor match between abilities and career choices for four out of ten students who took the Career Choice Inventory.

Students are not looking at all their options. There is a tendency to rigidify the level of aspiration early, long before their maturity is in place and before their interests are fully formed.

Implications for Instruction

Young people need more help to see the options and consider the consequences and alternatives when making career decisions.

Students need to work on the decision making process, and to have a broader perspective when making career decisions.

They need to be viewing possible career areas in relation to their interests and abilities. There are many self-administered inventories as well as other procedures to help them to relate their own characteristics with the qualities required on jobs. (See e.g., the Career Choice Inventory.)

Schools are encouraged to get involved in the Employability Development Plan (EDP) process to aid students in their planning and decision making for careers.

Students need a great deal of help to deal with change. Because of cut-backs at the middle school level, students have limited electives and exploratory experiences, therefore little to draw on to discover and develop their interests. They can be encouraged to engage in these exploratory experiences outside of school.

Implications for Guidance

Students need to be involved in a structured career planning program. This experience should provide students with information about their abilities, interests, preferences, and experiences; it should provide students with information about various post-high school options that are available; and it should assist the students in learning how to put a career plan together.

Students need to be taught the importance of keeping their options open and they need practice in developing short and long term goals relative to life-career development.

Career Planning and Placement

Students do not have accurate career information in order to make appropriate plans. They show little awareness of the changes occurring in the work world, and the necessity of being prepared for these changes. They appear not to have a broad understanding of the economics of employment.

Students do not have the awareness that what they are doing now (habits) carries over into other settings.

Well over half of the students do not regularly use a computer, and yet most of them are willing to take a job in which they will learn to use a computer.

Tenth grade students have poor planning skills, particularly when on their own, to think a situation through to completion.

Students' problem-solving skills are quite weak, particularly in using objectivity to identify the cause or source of a problem.

Implications for Instruction

Because students do not have adequate career information they are not able to match occupations with required courses of study.

Teachers of all subjects need to relate career options to courses of study.

Students must be made aware that technological and social changes are radically alterning not only the kinds and numbers of careers and jobs that will be available in the future, but of the concurrent changes occurring in life style and the meaning of work. This awareness is the first step required for them to learn the adaptability and the planning for change that they will need to survive in the future.

They need also to learn that the qualities sought by employers are also changing. Besides the traditional work ethic of punctuality, reliability, effort, and excellence, more emphasis is being placed on initiative, communication skills, problem solving, organization skills, and creativity. These can most effectively be brought home to students by arranging for first hand contact with prospective employers who are able to discuss what they look for in their employees.

Planning and problem solving skills should be addressed in as many different ways as possible. This stimulates critical thinking which is an area of weakness among 10th graders.

Implications for Guidance

Students need to be involved in activities that emphasize the importance of planning skills. The development and refinement of the tentative four year educational plan of studies for their high school career would give them a realistic experience in relating planning to the world in which they live.

Students should be involved in activities that teach them how to utilize problem solving skills (i.e., the nuclear problem solving process), and they should engage in role play situations where they practice these skills.

The importance of habit carryover should be constantly emphasized in the activities in which they take part.

VI. FURTHER ANALYSIS OF RESULTS - SEX DIFFERENCES

For a summary of the results discussed in this section, see Section III, Highlights.

The increasing attention given to breaking down sex-role stereotyping during the past decade should have resulted in more flexible attitudes in our youngsters toward the roles they perceive adults and themselves to perform. Test items measuring three objectives examined student perceptions of and attitudes toward gender roles.

1. Objective 3-2.2.1, 6-2.2.1, 9-2.2.1: The student will examine non-traditional as well as traditional roles that men and women have in home, work, community, and leisure settings.

Two sets of questions were asked at all three grade levels to measure this objective.

The first set asked students to identify the sex that is usually associated with a job or activity. Five of the ten roles in this set of questions were those commonly held by men, and five were common female roles. These were scored as correct when the student recognized the usual roles.

The second set asked students who CAN do a job or activity. Again, five were typical male roles and five were typical female roles. The correct answer on this set was "Both".

Table 1 gives the responses for the two sexes at grades 4, 7, and 10 for the first set of items. Statistically significant differences are designated with an "*". Table 2 gives the results for the second set of items.

Insert Table 1

An examination of Table 1 will show first of all, that the majority of students of both sexes recognized that these roles are usually performed by members of one sex. The exceptions are:

1) Dentist - over one-half of fourth and seventh graders saw this as a job for both women and men. (Reviewers thought that younger students confused dentists with dental hygienists.)

2) Coach - More than 50% of tenth graders saw coaching as an occupation for both men and women.

Table 1. Responses of Males and Females on Items Measuring Recognition of Sex-Role Stereotypes, in Percents

Item/Responses	Grade 4 M	Grade 4 F	Grade 7 M	Grade 7 F	Grade 10 M	Grade 10 F
Auto Mechanic						
Mostly by women	3	3	4	2	4	3
#Mostly by men	80	73	84	79	88	86
Both women and men	17	23	12	18	7	11
Beautician						
#Mostly by women	64	67	67	60*	71	48**
Mostly by men	9	8	4	3	2	2
Both women and men	27	25	29	37	27	51
Coach						
Mostly by women	5	2	3	2	2	2
#Mostly by men	60	50	55	43**	46	34**
Both women and men	35	48	42	55	52	65
Dentist						
Mostly by women	5	5	4	3	4	2
#Mostly by men	29	24	39	39	54	53
Both women and men	64	70	57	58	42	46
Nurse						
#Mostly by women	79	86	84	87	76	78
Mostly by men	6	2	2	2	4	1
Both women and men	15	12	14	11	20	20
Secretary						
#Mostly by women	66	72	76	85**	84	90*
Mostly by men	15	8	9	4	5	1
Both women and men	20	19	15	11	12	9
House Repair						
Mostly by women	9	9	5	6	4	2
#Mostly by men	75	74	84	76**	82	81
Both women and men	15	17	11	18	14	16
Ironing Clothes						
#Mostly by women	76	81	73	78	68	76*
Mostly by men	6	3	3	2	4	2
Both women and men	18	15	24	20	28	22
Lawnmowing						
Mostly by women	4	5	4	3	5	3
#Mostly by men	57	46*	66	53**	68	54**
Both women and men	39	49	29	44	27	44
Sewing						
#Mostly by women	70	82*	84	90**	82	85
Mostly by men	9	8	5	2	5	1
Both women and men	21	10	11	7	14	14
N	248	241	759	823	605	588

* $t \geq 2.58$, $p < .01$ ** $t \geq 3.29$, $p < .001$ # correct answer

Table 2. Responses of Males and Females on Items Measuring Transcendence of Sex-Role Stereotypes, in Percents

Item/Responses	Grade 4 M	Grade 4 F	Grade 7 M	Grade 7 F	Grade 10 M	Grade 10 F
Carpenter						
Women	3	4	4	3	5	3
Men	71	62	56	53	47	37
#Both	26	34	39	43	49	60**
Child Care Worker						
Women	58	58	49	49	40	40
Men	6	2	8	5	4	2
#Both	36	40	43	45	53	58
Engineer						
Women	4	4	5	5	2	2
Men	72	72	51	49	40	35
#Both	24	23	44	45	58	63
Fashion Model						
Women	66	62	46	36	30	17
Men	12	9	6	4	3	1
#Both	22	27	48	60**	67	82**
Librarian						
Women	45	43	45	42	41	40
Men	8	5	4	1	3	2
#Both	47	53	52	57	56	58
Police Officer						
Women	3	3	3	2	3	2
Men	26	18	14	11	13	10
#Both	70	79	82	87	83	88
Cooking						
Women	38	38	24	25	16	9
Men	4	3	4	2	2	1
#Both	58	59	72	73	82	90**
Cleaning the House						
Women	64	63	48	52	35	30
Men	6	4	5	3	4	2
#Both	30	33	47	45	61	69*
Fixing the roof						
Women	2	2	4	2	3	1
Men	93	90	75	76	66	61
#Both	5	8	21	22	30	38*
Hunting						
Women	1	3	5	2	3	1
Men	81	77	66	69	50	49
#Both	18	19	30	29	46	50
N	247	244	761	822	598	587

* $t \geq 2.58$, $p < .01$ ** $t \geq 3.29$, $p < .001$ #correct answer

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Insert Table 2

Table 2 shows that more students perceived that both sexes can do a number of jobs or activities. Over a majority answered "both" to the following:

1) Carpenter - grade 10
2) Child Care Worker - grade 10
3) Engineer - grade 10
4) Fashion Models - grades 7 and 10
5) Librarian - grades 4, 7, and 10
6) Police Officer - grades 4, 7, and 10
7) Cooking - grades 4, 7, and 10
8) Cleaning the House - grade 10

These results show that stereotyping is breaking down more rapidly for certain types of occupations and activities, and that tenth graders are more able to see that different roles are potentially open for members of both sexes.

In examining the responses of male and female students, the most interesting finding is the pattern of differences on the two sets of questions. In the first set, stereotypes were recognized more frequently by boys for the typically male roles, and by girls for the typically female roles, with the exception of Beautician. On the second set, girls showed less stereotyping than boys on every role, regardless of whether traditionally male or female.

2. Objective 9-2.2.2: The student will evaluate her/his views of roles that are acceptable to her/himself.

Tenth graders were asked to respond to a list of 35 occupations in terms of whether they would consider each as a career for her/himself. There were no restrictions on how many they could respond "yes" to.

Table 3 gives the percent of males and femals responding "yes" to each occupation. Note that for 27, or three-fourths of the occupations, there were significant sex differences. Males were more frequently selecting fields that are traditionally male. Females selected fields that are traditionally female, with the exception of Accountant and Physician. There were no significant sex differences for the occupations of Artist, Biologist, Computer Programmer, Dentist, Lawyer, Physician Musician, TV News Reporter, Company President and Retail Salesperson.

These results show that whereas tenth graders are more free to recognize that gender does not restrict one from occupational roles, they were limiting themselves in their personal choices to traditional occupational roles.

Table 3. Percent of Males and Females Considering 35 Occupations as Career Choices (n = 1199)

Occupation	% Males	% Females	Occupation	% Males	% Females
Accountant	31	41**	Librarian	6	24**
Architect	44	21**	Minister	11	5**
Artist	28	28	Musician	38	35
Auto Mechanic	49	13**	TV News Reporter	34	34
Biologist	22	20	Nurse	6	52**
Carpenter	43	8**	Physician	33	41
Cashier	23	49**	Pilot	45	17**
Chemist	26	18*	Police Officer	37	25**
Company President	60	52	Professional Athlete	60	26**
Computer Programmer	65	63	Professional Model	20	57**
Cosmetologist	8	56**	Psychologist	22	42**
Delivery Truck Driver	30	11**	Retail Salesperson	19	25
Dentist	23	23	Secretary	6	62**
Engineer	59	18**	Teacher	25	40**
Farmer	19	13*	Telephone Operator	8	22**
Flight Attendant	17	45**	TV Repairperson	21	4**
Homemaker	12	46**	Writer-Author	25	32*
Lawyer	49	48			

* $t \geq 2.58$, $p < .01$

** $t \geq 3.29$, $p < .001$

3. Objective 9-2.2.3: The student will examine her/his attitudes toward gender roles in work settings.

The following four items measured tenth graders' attitudes toward gender in careers and work roles.

(Form 92)

Item 53. Imagine that you had the skills and interests that would suggest a career in a field primarily occupied by members of the opposite sex. Which...would come closest to the way you feel about going into such a career?

	Enjoy non-trad role	Gender does not matter	Uncomf but not stopped	Would avoid that field
Males	11%	59%	23%	7%
Females	22%	55%	21%	2%

$\chi^2 = 35.37$ $p < .001$ $n = 1190$

Twice as many females as males said they would enjoy being one of the few persons of their sex in that field.

(Form 92)

Item 54. Imagine that you are working for a company and they are hiring a new manager from whom you would have to take orders. Which...would come closest to the way you feel?

	Sex of mgr does not matter	Prefer own sex mgr	Prefer opposite sex mgr	Refuse work for opposite sex mgr
Males	67%	21%	10%	2%
Females	87%	5%	7%	1%

$\chi^2 = 81.69$ $p < .001$ $n = 1190$

Significantly larger numbers of females said that the gender of a manager or supervisor does not matter. Males more often stated a preference, especially for male supervisors.

This item was also examined for differences between those students who met and did not meet the criterion for Objective 2.2.1B, which measured the ability to cranscend stereotypes. Results are given below.

	Sex of mgr does not matter	Prefer own sex mgr	Prefer opposite sex mgr	Refuse work for opposite sex mgr
Free of stereo-types	87%	7%	5%	1%
Not Free of stereo-types	71%	16%	11%	2%

$\chi^2 = 39.05$ $p < .001$ $n = 1190$

Students less free of stereotypes tended more often to state a preference of either the same sex or opposite sex manager. Those freer of stereotypes tended more often to indicate that the gender of their supervisor did not matter.

(Form 92)

Item 55. Imagine that you...have been promoted to a supervisor. Which would come closes to the way you feel.

	M/F does not matter	Prefer supervise both M & F	Prefer supervise my sex only	Prefer supervise opposite sex only
Males	51%	33%	8%	8%
Females	59%	34%	4%	3%

$\chi^2 = 24.25$ $p < .001$ $n = 1186$

More females said that the gender of their supervisees did not matter. Slightly more males preferred either males or females as supervisees.

This item was also cross-tabulated with Objective 9-2.2.1B.

	M/W does not matter	Prefer supervise both M & W	Prefer supervisees of same sex	Prefer supervisees of opposite sex
Free of stereotypes	62%	32%	3%	3%
Not free of stereotypes	51%	34%	8%	7%

$\chi^2 = 27.65$ $p < .001$ $n = 1190$

Those less free of stereotypes tended to state a preference of gender of those they would supervise; those freer of stereotypes felt gender did not matter.

(Form 92)

Item 56. Think about the career you are presently considering. Which...comes closest to describing that field?

	Equally men & women	More men than women	More women than men	Almost exclusively men OR women
Males	45%	39%	5%	12%
Females	56%	19%	20%	5%

$\chi^2 = 116.38$ $p < .001$ $n = 1188$

There were large differences between male and female students on this item. Twice as many males as females are considering fields where there are more men than women. Four times as many females as males are considering fields where there are more women than men. Fewer males are going into careers where men and women are equally represented, and more males are choosing fields that are one-sex dominated.

Additional analysis indicated that there were significant differences ($p < .01$) among female students where those free of stereotypes tended to be considering fields where men and women are equally represented (59%/54%), or where there were more men than women (23%/16%). Females less free of stereotypes tended to select occupations in which there were more women than men (25%/13%). These differences were not statistically significant for male students.

The results of the above four items show that female tenth graders are more comfortable than male students with gender roles in work settings and careers. Among women, those freer of stereotypes tend to be considering occupations filled largely by men, whereas those less free of stereotypes tended to restrict themselves to traditionally female fields.

Other items showing statistically significant sex differences are given below.

GRADE FOUR

Objective 3-1.2.1: The student will name some things about her/himself that s/he would like to improve.

Item 29. Which of the following would you like MOST to do better?

	Jobs at Home	A Sport	Music or Art	School Subjects
Males	14%	47%	25%	15%
Females	19%	32%	28%	20%

$\chi^2 = 11.51$ $p < .01$ $n = 490$

Item 30. Which of the following would you like MOST to improve?

	Making Friends	The way I Behave	The way I Look	Doing things on my own
Males	25%	25%	10%	40%
Females	22%	19%	12%	47%

$\chi^2 = 4.94$ $p < .18$ $n = 491$

Items 29 and 30 were survey items which asked fourth graders to select the one out of four skills or aspects of self which they wanted most to improve. On Item 29, boys were significantly more interested than girls in learning to do better at a sport, while girls exceeded boys in their interest in doing better at jobs at home, music or art, and in school subjects.

On Item 30, boys were more concerned about improving their behavior and in making friends; while girls responded more frequently to doing things on their own and to improving their appearances. These differences did not reach statistical significance at tne .01 level.

Objective 3-1.3.1: The student will identify behaviors that enable one to get along with others.

Item 34. I am being a helpful friend if I (choose best)

	Do friend's homework	Let copy test answers	Accompany home if afraid*	Tell lies to protect
Males	10%	5%	74%	11%
Females	4%	3%	85%	8%

*preferred answer

$\chi^2 = 11.45$ $p < .01$ $n = 487$

There were significant sex differences on one of the three items measuring interpersonal skills. Item 34 asked students which of four responses would be helpful to a friend. A high proportion of fourth graders picked the preferred answer (walk home with a friend who is afraid), but girls responded correctly significantly more often than boys. Boys tended more frequently than girls to say they would do their friend's homework, or tell lies to keep a friend out of trouble.

GRADE SEVEN

Objective 6-1.3.1, 1.3.2: The student will identify behaviors that enable one to get along with others, and... that create problems in relationships.

Item 63. Which...shows the MOST respect for another person?

	Agree on everything	Say only nice things	Tell the truth*	Be silent when disagree
Males	10%	32%	45%	13%
Females	4%	24%	58%	14%

*preferred answer

$\chi^2 = 40.45$ $p < .001$ $n = 1559$

Significantly more girls said that telling the truth even if it hurts--the preferred answer--showed most respect for another person. While this was also the most frequent response for boys, a third of them, in contrast to only a fourth of the girls, indicated that being careful to say only nice things showed the most respect.

Item 64. Which...shows the MOST consideration or thoughtfulness for another person?

	Do favors	Attend and listen*	Respond to jokes	Give advice
Males	37%	24%	11%	28%
Females	30%	26%	5%	38%

*preferred answer

$\chi^2 = 34.32$ $p < .001$ $n = 1555$

The difference here was not in the proportion getting the correct answer. More females thought that giving unsolicited advice was the considerate or thoughtful thing to do. More males thought that doing favors for the person showed the most consideration.

Item 65. When working in a group, which...shows the MOST cooperation and team effort?

	Do equal share of work*	Tell jokes	Correct others	Decide for group
Males	61%	8%	15%	16%
Females	68%	3%	11%	18%

*preferred answer

$\chi^2 = 25.70$ $p < .001$ $n = 1548$

Slightly more females correctly responded that doing an equal share of the work was the best example of cooperation and team effort.

These items were repeated in the tenth grade test. A comparison of the results of the two grades showed that the direction of the differences between sexes were the same. However, there were interesting contrasts which reflect clearly the developmental differences of the two age groups:

- many more seventh graders responded that saying only nice things showed the most respect for another person. More tenth graders see that telling the truth is the more respectful behavior.
- large numbers of seventh graders see that doing favors for another shows the most consideration and thoughtfulness. More tenth graders saw paying attention to what the person is saying, and giving unsolicited advice as the considerate response.
- more tenth grade females, but not tenth grade males, defined cooperation and team effort correctly.

GRADE TEN

Since two multiple-choice booklets were used at grade ten, the Form number of the booklet is given for each item.

Objective 9-1.1.10: The student will evaluate her/his growth in independence.

Item 53. Getting homework done (Form 91)

	Take full responsibility	Take partial responsibility	Don't take any responsibility
Males	68%	23%	7%
Females	81%	15%	3%

$\chi^2 = 52.78$ $p < .001$ $n = 2028$

Item 54. Finishing my chores around the home (Form 91)

	Take full responsibility	Take partial responsibility	Don't take any responsibility
Males	54%	38%	7%
Females	[illegible]	36%	3%

[illegible] $= 25.46$ $p < .001$ $n = 2025$

(Form 91)

Item 55. Deciding whether how I behave is right or wrong

	Take full responsibility	Take partial responsibility	Don't take any responsibility
Males	58%	31%	9%
Females	63%	33%	3%

$\chi^2 = 43.10$ $p < .001$ $n = 2021$

Tenth graders were asked to indicate the level of responsibility they assumed for homework, home chores, and personal behavior. Significant sex differences were found for all three items, with more females claiming full responsibility in each case. A consistent 7-9% of males and 3% of females claim no responsibility. These differences reflect the greater maturity of females at this age.

Objective 9-1.2.4: The student will examine those attitudes and work habits that enable one to succeed.

(Form 91)

Item 38. Anna has worked hard on her job as an arcade manager and she feels she deserves a raise. What should she do?

	Ask for a raise*	Threaten to quit	Wait until noticed	Look for intermediary
Males	47%	9%	38%	7%
Females	61%	3%	31%	5%

*preferred answer

$\chi^2 = 60.17$ $p < .001$ $n = 2064$

(Form 91)

Item 39. John...is re-assigned to a woman supervisor. John does not like to work for women and has gotton into some arguments with his supervisor. What is the BEST solution to John's problem?

	Fire John	Help change his attitude*	Transfer John	Make John supervisor
Males	8%	54%	29%	9%
Females	5%	68%	24%	3%

*preferred answer

$\chi^2 = 60.64$ $p < .001$ $n = 2065$

(Form 91)

Item 40. Joe finishes his classes at 3:30, and recently took a job which starts at 4:00. He can't make it to work on time and has been reporting on the job at 4:15. What should he do?

A. Work harder on the job to make up for the lost time.

B. Ask the principal to release him every day from school at 3:15.

C. Ask his supervisor to start his job at 4:15

D. Ask another worker to cover for him until 4:15.

	A	B	C*	D
Males	11%	17%	60%	13%
Females	9%	12%	69%	10%

*preferred answer

$\chi^2 = 21.70$ $p < .001$ $n = 2067$

Female students again scored significantly higher on these items than did male students. A much larger proportion of them selected the assertive solution to the first situation, and looked for an attitude change in the second. Though still statistically significant, the difference in response to the third relatively common job situation is smaller.

These differences are more startling in light of the fact that more males have had part-time experiences than females (see Objective 9-2.4.1B).

Objective 9-1.3.1, 9-1.3.2: The student will:

identify behaviors that enable one to get along with others;

identify behaviors that create problems in relationships.

(Form 91)

Item 56. Which...shows the MOST respect for another person?

	Agree on everything	Say only nice things	Tell the truth*	Be silent when disagree
Males	9%	21%	56%	15%
Females	3%	14%	66%	17%

*preferred answer

$\chi^2 = 52.15$ $p < .001$ $n = 1910$

(Form 91)

Item 57. Which...shows the MOST consideration or thoughtfulness for the other person?

	Do favors	Attend and listen*	Respond to jokes	Give advice
Males	19%	34%	11%	35%
Females	10%	46%	4%	40%

*preferred answer

$\chi^2 = 86.59$ $p < .001$ $n = 1905$

(Form 91)

Item 58. When working in a group, which...shows the MOST cooperation and team effort?

	Do equal share of work*	Tell jokes	Correct others	Decide for group
Males	69%	7%	12%	12%
Females	83%	2%	6%	9%

*preferred answer

$\chi^2 = 58.95$ $p < .001$ $n = 1897$

Significantly more females than males responded correctly to all three of the above items measuring knowledge of interpersonal skills. The difference was especially large for the item on team effort. Again, these results indicate that females are more mature interpersonally than males at this age level.

This set of items was repeated in the seventh grade test. For a comparison of results, see page 96 .

The same set of objectives was assessed by five additional survey items asking students to assess their interpersonal strengths. Four of the five items yielded significant sex differences.

(Form 92)

Item 57. In getting along with others, my STRONGEST point is

	Make others comfortable	Good listener	Good entertainer	Having the best ideas
Males	36%	33%	21%	10%
Females	46%	35%	14%	6%

$\chi^2 = 22.39$ $p < .001$ $n = 1185$

Girls, in greater frequency than boys, saw their strengths in supportive roles. Although in smaller proportions, boys more frequently saw themselves in leadership or individualistic roles.

(Form 92)

Item 59. Among the following, I could use the MOST improvement in

	More open and sharing	Keep promises	Knowing when to be silent	Be more helpful
Males	36%	17%	30%	18%
Females	43%	10%	28%	19%

$\chi^2 = 14.63$ $p < .01$ $n = 1179$

The largest proportion of both boys and girls are concerned about being more open and of sharing themselves, which would be expected among adolescents who are moving into the developmental period where relationships become primary. More girls than boys made this response. More boys than girls are concerned about keeping agreements and promises, or of developing their trustworthiness.

(Form 92)

Item 60. Among the following, I could use the MOST improvement in

	More patient	More considerate	More accepting	Get angry less often
Males	33%	20%	21%	27%
Females	34%	13%	23%	30%

$\chi^2 = 11.02$ $p < .01$ $n = 1177$

The largest sex difference here is in the concern for being more considerate of others, where boys responded in greater frequency. Interestingly, slightly more girls are concerned about their anger. This does not necessarily mean that girls get angrier often; it may mean that females are less accepting of anger in themselves.

(Form 92)

Item 61. Among the following, I could use the MOST improvement in

	Letting others talk	Expressing my feelings	Not agreeing so readily	Being more open-minded
Males	12%	39%	21%	28%
Females	12%	43%	29%	17%

$\chi^2 = 25.18$ $p < .001$ $n = 1179$

Boys most frequently chose expressing feelings and being open-minded as areas of self improvement. Girls chose expressing feelings and being less acquiescent.

The patterns of responses above suggest that among tenth graders, girls are more sophisticated in their understanding of relationships than are boys: they have a better grasp of what enables one to get along with others, are less concerned about making others comfortable and more concerned about sharing themselves and expressing feelings. Boys are still concerned about curbing their own needs and allowing for the other in terms of open-mindedness and keeping agreements.

Objective 9-2.2.2B: The student will evaluate her/his views of roles that are acceptable to her/himself.

(Form 92)

Item 40. How much planning or careful thinking have you done about your first full-time job?

	No thinking	No serious thinking	Some or much serious thinking
Males	8%	25%	67%
Females	3%	22%	74%

$\chi^2 = 13.86$ $p < .001$ $n = 1191$

(Form 92)

Item 41. ...things to look for in a job or career to help your work life be rewarding and satisfying.

	No thinking	No serious thinking	Some or much serious thinking
Males	8%	21%	71%
Females	4%	14%	82%

$\chi^2 = 20.93$ $p < .001$ $n = 1195$

(Form 92)

Item 42. ...kind of person you want to be as an adult.

	No thinking	No serious thinking	Some or much serious thinking
Males	4%	19%	77%
Females	2%	9%	89%

$\chi^2 = 30.91$ $p < .001$ $n = 1193$

Many more female tenth graders have thought seriously about their futures than have male tenth graders.

Objective 9-2.4.1B: The student will name a variety of career exploration activities in which s/he has participated.

(Form 92)

Item 78. Which...have you done to learn about jobs and the work world?

	Paid job	Volunteer	Job + Volunteer	Neither
Males	48%	12%	23%	18%
Females	31%	14%	28%	28%

$\chi^2 = 37.93$ $p < .001$ $n = 1164$

More boys have had either a full-time or part-time job; more girls have done volunteer work or not worked at all.

Objective 9-4.7.2: The student will recognize the probable need for continuing education and self development throughout her/his life.

(Form 92)

Item 79. Not counting video games, how often do you use a microcomputer either at school or at home?

	Every day	Each week	Each month	Rarely/ never
Males	15%	17%	18%	51%
Females	8%	9%	12%	71%

$\chi^2 = 54.43$ $p < .001$ $n = 1168$

Girls lag behind boys in their use of microcomputers.

(Form 92)

Item 80. If you had a choice of two jobs in the same field and for the same pay, which of the following would you choose?

	Job using computer, if trained	Job NOT using computer	Either acceptable
Males	38%	20%	41%
Females	33%	15%	51%

$\chi^2 = 15.78$ $p < .001$ $n = 1164$

Although more boys chose the job with computer use, more boys also chose the job which did not require the use of computers. More girls were neutral.

APPENDICES

Summary of Career Development Components

COMPONENT		THEMATIC QUESTION	GRADE LEVEL K - 3	4 - 6	7 - 9
SELF AWARENESS AND ASSESSMENT 1. Who am I now?	1.1	What kind of person am I?	X	X	X
	1.2	What kind of person do I want to become?	X	X	X
	1.3	How do I relate to others?	X	X	X
CAREER AWARENESS AND EXPLORATION 2. What can I become?	2.1	What have I learned about different careers?	X	X	
	2.2	What are roles that men and women can have?	X	X	X
	2.3	What responsibilities do people have to themselves and to others?	X	X	X
	2.4	What have I done to learn about jobs (careers)?	X	X	X
	2.5	How can I learn more about careers?	X	X	X
CAREER DECISION MAKING 3. How do I decide what to become?	3.1	What are some decisions that I am capable of making?	X	X	
	3.2	What responsibilities go with the decisions that I make?	X	X	X
	3.3	If I had an important decision to make for myself, how should I do it?	X	X	X
	3.4	What are some career areas I am considering?		X	X
	3.5	How have I explored these choices?			X
	3.6	What do I know about my current choices?			X
	3.7	How am I suited for these careers?		X	X
	3.8	What alternatives do I have if this choice does not work out?			X
CAREER PLANNING AND PLACEMENT 4. How do I get there?	4.1	When I have a problem, what do I do to help myself with this problem?	X	X	X
	4.2	What is a goal I have for myself and what are the steps I can take to reach that goal?	X	X	X
	4.3	What courses at middle/junior or high school will help with my career goals?		X	X
	4.4	To prepare for my tentative career goals, what education or training will I need after high school?		X	X
	4.5	What can I do to periodically reassess my tentative career goals?		X	X
	4.6	How can I locate, obtain, and maintain a job?	X	X	X
	4.7	How can I prepare for future changes in the work world and in life roles?			X

ATTAINMENT RATES FOR CAREER DEVELOPMENT OBJECTIVES

GRADE 4

By the end of the third grade, the student will:

COMPONENT #1: WHO AM I NOW?

ATTAINMENT RATE		
SURVEY	3-1.2.1	name some things about her/himself that s/he would like to improve.
52%	3-1.2.4	examine those attitudes and work habits that enable one to succeed, and determine what she will do to attain these traits.
56%	(3-1.3.1	identify behaviors that enable one to get along with others.
	(3-1.3.2	identify behaviors that create problems in relationships.

COMPONENT #2: WHAT CAN I BECOME?

34%	3-2.1.1	identify tasks performed by people in the job.
74%	3-2.1.2	identify where people perform the job.
57%/7%	3-2.2.1	examine non-traditional as well as traditional roles that men and women have in home, work, community, and leisure settings.
59%	3-2.3.2	describe what the consequences could be when s/he does/does not perform these jobs.
48%	3-2.4.1	name a variety of career exploration activities in which s/he has participated. (In K-3 these should include field trips, guest speakers, visits to parents' work places, audio-visual presentations, classroom simulations, role playing, and other appropriate activities.)

COMPONENT #3: HOW DO I DECIDE WHAT TO BECOME?

ATTAINMENT RATE		
52%	3-3.1.1	recognize a variety of decisions s/he makes on her/his own at home, in school, and with friends.
64%	3-3.2.1	identify responsibilities that accompany the decision.
56%	3-3.2.2	describe what the consequences are when these responsibilities are not met.
24%	3-3.3.1	indicate important factors to consider in making the decision (including personal and external factors).

COMPONENT #4: HOW DO I GET THERE?

71%	3-4.1.1	identify the problem clearly.
67%	3-4.1.3	describe a solution to solve the problem.
15%	3-4.2.2	describe the steps s/he would take to reach the goal.
70%	3-4.6.1	develop an awareness of how attitude and attendance habits are being learned that will carry over to their success in school.

ATTAINMENT RATES FOR CAREER DEVELOPMENT OBJECTIVES

GRADE 7

By the end of the sixth grade, the student will:

COMPONENT #1: WHO AM I NOW?

ATTAINMENT RATE		
63%/42%/44%	6-1.1.7	evaluate her/his growth in independence.
85%/66%	6-1.2.1	formulate what things about her/himself that s/he would like to improve.
72%	6-1.2.4	examine those attitudes and work habits that enable one to succeed, and determine what s/he will do to attain these traits.
47%	(6-1.3.1 (((6-1.3.2 (	identify behaviors that enable one to get along with others and indicate which of these characterize her/him. identify behaviors that create problems in relationships and identify improvements s/he can make in her/himself.

COMPONENT #2: WHAT CAN I BECOME?

54%	6-2.1.2	identify tasks performed by people in the occupation.
68%	6-2.1.4	identify skills required of people in the occupation.
57%	5-2.1.6	identify occupations in the same career field.
66%/26%	6-2.2.1	examine non-traditional as well as traditional roles that men and women have in home, work, community, and leisure settings.
89%	6-2.3.1	identify the responsibilities s/he holds in school, to her/his family, to friends, and to her/himself.
72%/53%	6-2.3.2	describe what the consequences could be when these responsibilities are/are not met.
68%	6-2.4.1	name a variety of career exploration activities in which s/he has participated.
		(In 4-6 these should include field trips, guest speakers, visits to parents' work places, audio-visual presentations, classroom simulations, role playing, job shadowing, interviews with workers, and other appropriate activities.)

ATTAINMENT RATE		
62%	6-2.5.1	identify people who can help her/him learn about careers.
	6-2.5.3	identify other sources of career information that are available.

COMPONENT #3: HOW DO I DECIDE WHAT TO BECOME?

76%	6.3-1.1	recognize a variety of decisions s/he makes on her/his own at home, in school, and with friends.
59%	6-3.2.1	identify responsibilities that accompany the decision.
79%	6-3.2.2	describe what the consequences are when these responsibilities are/are not met.
69%	6-3.3.1	indicate important factors to consider in making the decision (including personal and external factors).
86%	6-3.4.1	identify a number of career areas that s/he has considered.
52%	6-3.7.1	relate her/his interests to possible career choices.
78%	6-3.7.2	relate her/his skills and abilities to possible career choices.

COMPONENT # 4: HOW DO I GET THERE?

50%	6-4.1.1	identify the problem clearly.
68%	6-4.1.3	describe a plan to solve the problem.
57%	6-4.1.4	identify alternative ways to solve the problem.
89%	6-4.2.1	name a goal s/he has for her/himself.
51%	6-4.2.2	outline a plan to reach the goal.
45%	6-4.2.4	estimate the time required to reach the goal.
61%	6-4.6.1	develop an awareness of how attendance habits and attitudes are being learned, that will carry over to their success in school.

ATTAINMENT RATES FOR CAREER DEVELOPMENT OBJECTIVES

GRADE 10

By the end or the ninth grade, the student will:

COMPONENT #1: WHO AM I NOW?

ATTAINMENT RATE		
70%	9-1.1.10	evaluate her/his growth in independence.
85%/75%/54%	9-1.2.1	formulate what things about her/himself that s/he would like to improve.
63%	9-1.2.4	examine those attitudes and work habits that enable one to succeed, and determine what s/he will do to attain these traits.
64%	9-1.3.1	identify behaviors that enable one to get along with others and indicate which of these characterize her/him.
	9-1.3.2	identify behaviors that create problems in relationships and identify improvements s/he can make in her/himself.

COMPONENT #2: WHAT CAN I BECOME?

65%/46%	9-2.2.1	examine non-traditional as well as traditional roles that men and women have in home, work, community, and leisure settings.
80%	9-2.2.2	evaluate her/his views of roles that are acceptable for her/himself.
84%	9-2.3.1	identify the responsibilities s/he holds in school, to her/his community, to her/his family, to friends, and to her/himself.
67%/43%	9-2.3.2	describe what the consequences could be when these responsibilities are/are not met.
28%	9-2.4.1	name a variety of career exploration activities in which s/he has participated.

(In 7-9 the focus should sift to more intensive exploration of one's tentative choices, e.g., MOIS, work experiences, volunteer experiences, day on the job, and other appropriate activities.)

76%	9-2.5.1	identify people who can help her/him learn about careers.
41%	9-2.5.2	explain what career information can be obtained from the resources within the school (including MOIS).
23%	9-2.5.5	identify other sources of career information that are available (e.g., MOIS, Occupational Outlook Handbook, D.O.T., community resources, etc.).
SURVEY	9-2.2.3	examine her/his attitudes toward gender roles in work settings.

COMPONENT #3: HOW DO I DECIDE WHAT TO BECOME?

ATTAINMENT RATE		
67%	9-3.2.1	identify responsibilities that accompany the decision.
78%	9-3.2.2	describe what the consequences are when these responsibilities are not met.
85%	9-3.3.1	indicate important factors to consider in making the decision (including personal and external factors).
94%	9-3.4.1	identify the career areas that s/he is presently considering.
SURVEY	9-3.4.2	indicate how sure s/he is of each choice.
75%	9-3.6.1	identify skills required of people in the occupation.
66%	9-3.6.2	identify the education/training required of people in the occupation.
70%	9-3.6.3	identify worker traits that are important in the occupation.
81%/82%	9-3.6.4	describe the working conditions of the occupation.
68%	9-3.7.1	relate her/his interests to these careers.
75%	9-3.7.2	relate her/his skills and abilities to these careers.
SURVEY	9-3.7.5	relate her/his motivation to the length and extent of preparation required for possible career choices.
49%/40%	9-3.8.1	identify related occupations that require different levels of training.

COMPONENT #4: HOW DO I GET THERE?

ATTAINMENT RATE		
62%	9-4.1.1	identify the problem clearly.
72%	9-4.1.3	outline a plan to solve the problem.
24%	9-4.1.4	identify alternative ways to solve the problem.
94%	9-4.2.1	name a career goal s/he has for her/himself.
47%	9-4.2.2	outline a plan to reach the goal.
69%	9-4.2.3	identify factors that influence the achievement of the goal.
49%	9-4.2.4	develop a timeline for the plan.
63%	9-4.3.1	list high school courses/activities which are most important for his career options.
62%	9-4.6.1	develop an awareness of the factors that influence the supply and demand of jobs.
74%	9-4.6.2	indicate how to find jobs and employers.
54%	9-4.6.4	complete a job application.
39%	9-4.6.7	demonstrate basic interviewing skills.
54%	9-4.6.8	develop an awareness of how work and attendance habits, and attitudes are being learned, that will carry over to the work world.
62%	9-4.7.3	recognize personal, economic, and social reasons for possible career changes throughout one's life.

LIST OF DISTRICTS TESTED

Grade 4

District #	District Name	School #	School Name
82-010	Detroit City School District	0097	Angell Elementary
82-010	Detroit City School District	3720	Region 4 Open Elem. School
13-020	Battle Creek Public Schools	2169	Level Park School
56-010	Midland Public Schools	4561	Windover School
50-130	Lakeview Public Schools	3124	Princeton Elementary School
63-290	Walled Lake Cons. School District	4571	Wixom Elementary School
19-140	St. Johns Public Schools	1010	East Essex School
44-010	Lapeer Community Schools	6667	Emma Murphy Elementary Sch.
13-050	Athens Area Schools	1027	East Leroy Elem. School
47-060	Hartland Consolidated	2127	Hartland Village Elem.
16-015	Cheboygan Area Schools	0342	Black River Elem. Sch.
52-090	Negaunee Public Schools	5352	Pineview School

Grade 7

82-010	Detroit City School District	0461	Burroughs Middle School
82-010	Detroit City School District	5773	Drew Middle School
25-010	Flint City School District	4520	Whittier Middle School
74-010	Port Huron Area School District	0676	Chippewa Intermediate
50-190	Romeo Community Schools	6361	Powell Junior High School
82-030	Dearborn City School District	5847	Woodworth Junior High
25-030	Grand Blanc Community Schools	1452	Perry Junior High School
47-070	Howell Public Schools	1775	McPherson Middle School
14-030	Edwardsburg Public Schools	1095	Edwardsburg Junior High Sch.
61-120	Holton Public Schools	1713	Holton Junior/Senior High
16-100	Wolverine Community Schools	5860	Wolverine Comm. Jr/Sr Hi
53-020	Mason County Eastern School Dist.	1045	Eastern High School

Grade 10

District #	District Name	School #	School Name
82-010	Detroit City School District	0631	Chadsey High School
82-010	Detroit City School District	1236	Finney High School
82-010	Detroit City School District	2757	Northern High School
25-010	Flint City School District	0618	Central High School
33-020	Lansing Public School District	1044	Eastern High School
39-010	Kalamazoo City Schools	6117	Central High School
50-170	New Haven Community Schools	2683	New Haven High School
50-230	Warren Consolidated Schools	6019	Sterling Heights Sr. High
63-100	Novi Community Schools	5315	Novi Senior High
19-140	St. Johns Public Schools	5708	St. Johns High School
25-200	Lake Fenton Schools	2082	Lake Fenton High School
34-010	Ionia Public Schools	1848	Ionia High School
14-030	Edwardburg Public Schools	1096	Edwardsburg High School
30-040	Litchfield Community Schools	2237	Litchfield High School
38-080	Concord Community Schools	0768	Concord High School
15-020	Boyne City Public Schools	0371	Boyne City High School
20-015	Crawford AuSable Schools	1482	Grayling High School
27-020	Ironwood Area Schools	2282	Luther L. Wright High School

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